SUPREME COURT OF THE UNITED STATES NO. 141, ORIGINAL STATE OF TEXAS, Plaintiff, VS. VS. VOLUME XVIII STATE OF NEW MEXICO AND STATE OF COLORADO, Defendants. Defendants.

TRANSCRIPT OF PROCEEDINGS

The above-entitled matter came on for HEARING before HONORABLE MICHAEL A. MELLOY, SPECIAL MASTER, held REMOTELY via Zoom, on NOVEMBER 9, 2021, commencing at 11:02 a.m.;

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1	REMOTE APPEARANCES
2	REMOTE APPEARANCES
3	FOR THE PLAINTIFF STATE OF TEXAS:
4	Mr. Francis M. Goldsberry II
_	SOMACH SIMMONS & DUNN, PC
5	500 Capitol Mall, Suite 1000
	Sacramento, California 95814
6	(916) 446-7979
	mgoldsberry@somachlaw.com
7	
	-and-
8	
	Ms. Sarah A. Klahn
9	SOMACH SIMMONS & DUNN
	2701 Lawrence Street, Suite 113
10	Denver, Colorado 80205
	(720) 279-7868
11	sklahn@somachlaw.com
12	FOR THE DEFENDANT STATE OF NEW MEXICO:
13	Ms. Lisa M. Thompson
	TROUT RALEY
14	1120 Lincoln Street, Suite 1600
	Denver, Colorado 80203
15	(303) 861-1963
	lthompson@troutlaw.com
16	
	FOR THE DEFENDANT STATE OF COLORADO:
17	
	Mr. Preston V. Hartman
18	COLORADO DEPARTMENT OF LAW
	1300 Broadway, 7th Floor
19	Denver, Colorado 80203
	(720) 508-6281
20	preston.hartman@coag.gov
21	FOR THE UNITED STATES:
22	Mr. James J. Dubois
	U.S. DEPARTMENT OF JUSTICE
23	999 18th Street, Suite 370
	Denver, Colorado 80202
24	(303) 844-1375
	james.dubois@usdoj.gov
25	

		Page 3
1	INDEX	
2		
3		Page
4	RYAN SERRANO	
	Direct Examination by Ms. Thompson	13
5	Cross-Examination by Mr. Goldsberry	144
	Cross-Examination by Mr. Dubois	170
6	Redirect Examination by Ms. Thompson	213
	Recross Examination by Mr. Goldsberry	216
7		
8		
9	REPORTER'S CERTIFICATION	219
10		
11		
12		
13		
14		
15		
16		
17		
18		
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20		
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1	JUDGE MELLOY: Looks like we have
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	everyone. Are we ready to go? Again, this is in
3	Original No. 141, Texas versus New Mexico, Colorado,
4	and the United States. Let me ask the parties who
5	will be appearing for this witness to enter their
6	appearance, please. For Ms. Klahn for Texas; is
7	that right?
8	MS. KLAHN: No, Your Honor. It'll be
9	Mr. Goldsberry with this witness. I just have a
10	preliminary matter after you take appearance.
11	JUDGE MELLOY: Okay. Mr. Goldsberry, do
12	you want to enter your appearance?
13	MR. GOLDSBERRY: Good morning, Your
14	Honor. Francis Goldsberry for the State of Texas.
15	JUDGE MELLOY: Then for New Mexico,
16	Ms. Thompson?
17	MS. THOMPSON: Lisa Thompson for the
18	State of New Mexico. Good morning.
19	JUDGE MELLOY: Mr. Dubois for the United
20	States.
21	MR. DUBOIS: Good morning, Your Honor.
22	James Dubois for the United States.
23	JUDGE MELLOY: Mr. Hartman?
24	MR. HARTMAN: Yes, Your Honor. Preston
25	Hartman for the State of Colorado.
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1 JUDGE MELLOY: All right. Before we start with the witness, what's your issue, Ms. Klahn? 2 3 MS. KLAHN: Your Honor, Texas would like 4 to move the deposition designations of Cheryl Thacker, 5 who was a 30(b)(6) witness for the State of New 6 Mexico, and we'd like to move that into evidence. 7 It's marked as Texas Exhibit 1215, and we'd also like 8 to ask permission to file an amended exhibit list, 9 which would include this exhibit as well as some 10 marked during Dr. Miltenberger's testimony back at the 11 beginning of the trial. 12 JUDGE MELLOY: Just a second. 13 MS. THOMPSON: Your Honor, could I 14 respond, please? 15 JUDGE MELLOY: Just one second, please. 16 Okay. 1215, and what did you say about an amendment 17 to that? 18 MS. KLAHN: Well, it's not on the --19 it's not on the current Texas exhibit list, which ends 20 at Texas 1209. We marked two exhibits during 21 Dr. Miltenberger's examination back in October, and 22 then there's several other deposition designations, 23 which we're not introducing today. Ms. Thacker's is 2.4 deposition designation marked Texas 1215 and so we 25 just wanted to also ask for permission to file an

amended exhibit list that would reflect those additional, I think, six exhibits.

JUDGE MELLOY: Tell me again, who is Ms.

Thacker? What is her role?

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MS. KLAHN: Yeah, Ms. Thacker is an employee of Mr. Serrano's at the District 4 Office of the State Engineer, and she was identified by the State of New Mexico under Rule 30(b)(6) as someone knowledgeable about administrative matters and state law and related issues, and we feel like this is an opportune time to introduce that testimony because of Mr. Serrano's testimony today.

JUDGE MELLOY: All right. Okay. Ms. Thompson, you can respond.

wanted to just alert the Court that we had no notice of this request from Texas. This has been an ongoing issue that I understand particularly Ms. Dalrymple has been addressing for the State of New Mexico. We do have objections to their designations. We had counter designations, and my understanding is that there was an agreement to hold off submitting these until later time, potentially even until the spring. Again, there was no notice of this today whatsoever, and we have not reviewed -- gone back to review that designation

1 or our counter designations at this time. MS. KLAHN: May I be heard, Your Honor? 2 3 JUDGE MELLOY: You may. 4 MS. KLAHN: Under Rule 32(a)(3) a 5 30(b)(6) deposition can be used for any purpose 6 including being introduced at this point in trial. 7 Ms. Thompson is correct, there's been an ongoing 8 dispute about whether Ms. Thacker's testimony was 9 replaced or supplemented by a subsequent witness, 10 Dr. Barroll; however, we've been trying to get some 11 concrete evidence of such agreement to withdraw Ms. 12 Thacker's testimony since September, and we've not had 13 any communication from counsel with New Mexico on this 14 issue, even though it was asked for at least several 15 weeks ago. I don't -- we don't think it exists. 16 think that there's just a disagreement about how the 17 scope of these two witnesses may or may not overlap, 18 and currently, what we have is designations and 19 counter designations, which are reflected in Texas 20 1215, and it's -- and we are not planning to call Ms. 21 Thacker at trial. So there's no reason to delay 22 introducing this exhibit. 23 JUDGE MELLOY: Are you objecting to the 2.4 counter designations? 25 MS. KLAHN: No.

JUDGE MELLOY: So do you have a substantive objection, Ms. Thompson, or is it just procedural?

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MS. THOMPSON: My understanding, Your Honor, is that it's both, that there has been written agreement between Ms. Dalrymple and Mr. Deitchman from Texas. A group of attorneys that this designation will be held off while there were some objections worked out. My understanding is there were ongoing communications that we're happy to submit to the Court to -- to prove those ongoing communications so this, for us, is a complete surprise when Ms. Dalrymple has been working diligently with Mr. Deitchman on working out these objections and these designations, and we'd be happy to go ahead and collect those communications and file with them -- with you today.

MS. KLAHN: Your Honor, there's no more meet and confer to do here. We've been meeting and conferring with New Mexico on this issue, as I said, for several months, and there's no resolution. They are free to, I guess, file something if they want to file something, but we don't see that any more discussion on this is going to resolve anything, and I think Mr. Dubois can perhaps speak to the issue of the specific issue that New Mexico objects to, Your Honor.

1 They say that -- that Ms. Thacker's testimony was, 2 quote, replaced by Dr. Barroll's testimony, who was 3 subsequently designated as a 30(b)(6) witness. testified about a month after Ms. Thacker did. 4 5 don't have an objection to the idea that Dr. Barroll's testimony may supplement Ms. Thacker's testimony, but 6 7 there's no -- there's literally no evidence that there 8 was some agreement that this testimony should've been 9 replaced, so we want to submit Ms. Thacker's 10 testimony. We think it's appropriate. 11 JUDGE MELLOY: Well, I'm not -- I want 12 to look at it before I make a final decision, but let 13 me take a look at the testimony, but let's proceed 14 with our -- the witness today. 15 MS. KLAHN: Thank you. 16 JUDGE MELLOY: All right. Well, let me 17 ask this question. Did you anticipate -- I'll ask --18 well, either Ms. Klahn or Mr. Goldsberry. Do you 19 anticipate using 1215 to cross-examine the New Mexico 20 witness, Mr. Serrano? 21 MR. GOLDSBERRY: No, Your Honor. 22 JUDGE MELLOY: Okay. All right. Very 23 good. All right then. Ms. Thompson, you may call 2.4 your witness.

Thank you, Your Honor.

MS. THOMPSON:

1 The State of New Mexico calls Ryan Serrano. 2 JUDGE MELLOY: Mr. Serrano, I need to 3 swear you as a witness. Would you raise your right 4 hand, please? Do you swear or affirm that the 5 testimony you're about to give would be the truth, the 6 whole truth, and nothing but the truth? 7 THE WITNESS: T do. 8 JUDGE MELLOY: All right. Mr. Serrano, 9 I need to go over -- well, first of all, let me ask 10 you to state and spell your name for the record. 11 THE WITNESS: It's Ryan John Serrano. 12 That's R-Y-A-N, J-O-H-N, S-E-R-R-A-N-O. 13 JUDGE MELLOY: And as I started to say, 14 Mr. Serrano, I need to go over a couple of the ground 15 rules we review with each of the witnesses. 16 let me ask you: Is there anyone in the room with you 17 during your testimony? 18 THE WITNESS: There is not. 19 JUDGE MELLOY: Do you have any documents 20 available to you, other than the exhibit books? 21 THE WITNESS: No, sir. 22 JUDGE MELLOY: And then finally, I need 23 to advise you that you're not allowed to have any 2.4 communication devices available during your testimony, 25 including iPhones, iPads, laptops, et cetera, with

e-mail or texting capability or anything of that nature. Do you understand?

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THE WITNESS: Yes, sir.

JUDGE MELLOY: All right. So before we start the examination, let's talk about the exhibits. On the Texas list, we have Joint Exhibits 467, 468, 474, which we show all as having been previously admitted, and then we have New Mexico 162, 162A, 163 -- excuse me, 263, New Mexico 263, New Mexico 428, New Mexico 429, and New Mexico 431, which is also the same as US-485, all which are A exhibits and will be admitted. And we have New Mexico 432, which is the same as US-489, New Mexico 433, New Mexico 465, which is the same as US-486, which will be admitted as A Then we have New Mexico 486 and New Mexico 538, both of which are A exhibits and will be admitted -- and will be admitted. Then we have New Mexico 4 -excuse me -- 542, and on the exhibit list, there's a parenthesis, use Colorado 004, but our records don't show that they're the same. Can anybody explain that or do you know what's going on there?

MR. DUBOIS: Your Honor, I think that might simply be an error in the exchange of information. I think that 542 and Colorado -- New Mexico 542 and Colorado 4 are not the same document,

and I believe it's New Mexico 542 that they want to admit.

MS. THOMPSON: And that's correct.

JUDGE MELLOY: Colorado 4 is a huge

document. So, okay, we can ignore Colorado 4?

6 MR. DUBOIS: Yes.

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JUDGE MELLOY: All right. Then New Mexico 542 is admitted. New Mexico 612, New Mexico 669 and 670 are all A and will be admitted. Mexico 674, which is the same as US-422 is an A and will be admitted. New Mexico 757, 762, 785, and 786 are all A and will be admitted. New Mexico 789, 793 are both A and will be admitted. New Mexico 807, which is the same as Texas 843, is an A and will be admitted. New Mexico 879 and 879A are both A and will be admitted. New Mexico 927, 929, and 939 are all A and will be admitted. New Mexico 2083 is an A and will be admitted. New Mexico 2376 is an A and will be admitted and then New Mexico Demonstrative 29, 53, 54, 55, 56, and 57 are all As and will be admitted, same with New Mexico Demonstrative 58 and 59 will be admitted, and then Texas 830 and 838 are demonstrative and will also be admitted. Cross-examination, Texas 826 and 829 are A and will be admitted, and I think that is it. Did I miss anything?

1	MR. DUBOIS: Your Honor, also on that
2	on the on the cross-examination list was New Mexico
3	710, which was an A exhibit, but the United States is
4	withdrawing that one from consideration. On further
5	consideration, there was nothing particularly
6	interesting in it so we're withdrawing 710.
7	JUDGE MELLOY: Okay. 710 is withdrawn.
8	All right. Anything else? All right. Then Ms.
9	Thompson, you may proceed with your examination.
10	MS. THOMPSON: Thank you, Your Honor.
11	RYAN SERRANO,
12	having been first duly sworn, testified as follows:
13	DIRECT EXAMINATION
14	BY MS. THOMPSON:
15	Q. Good morning, Mr. Serrano.
16	A. Good morning.
17	Q. Mr. Serrano, what's your current professional
18	title?
19	A. I'm currently the Lower Rio Grande Water
20	Master.
21	Q. Where is your office located?
22	A. We are located at 1680 Hickory Loop, Suite J
23	in Las Cruces, New Mexico.
24	Q. Mr. Serrano, what is a water master in New
25	Mexico?

1 A water master generally is charged with 2 overseeing the apportionment, measurement, and 3 distribution of waters within the water master 4 district. 5 0. And are there other water masters in New 6 Mexico throughout the state, other than just in the 7 Lower Rio Grande or what I'll refer to as the LRG? 8 Yes, there are. There are several. Α. 9 And then looking at Page 2 of our 0. 10 demonstrative exhibit, where does a water master's 11 authority derive from? 12 Α. There are a couple different locations. 13

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- A. There are a couple different locations.

 Primarily, it derives from statute, and you can see here in that first bullet point, state statute is referenced there, 72-3-2, and then the next two bullet points, that comes from New Mexico Administrative Code, so New Mexico Administrative Code is intended to further refine the previous statute so there's -- there's other additional duties identified in administrative code.
- Q. Mr. Serrano, for today at a high level for now, what have you been asked to testify to, what topics?
- A. Metering and measurement, as well as what we do to report, some enforcement and compliance issues,

as well as some general administrative issues.

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- Q. Okay. So we're going to talk about in detail those topics you just mentioned, but I want to first just briefly go through your professional background. So looking at Slide 3 on your demonstrative, on the left-hand side, if you could just walk us through your education first, please.
- A. Yes. So I attended high school in Santa
 Rosa, New Mexico. There's only one high school there,
 very small town. While I was in high school, I was
 enrolled in a few classes at Luna Community College,
 completed those courses, and they -- those credits
 transferred to New Mexico State University, where I
 attended and received a degree, a bachelor of science
 in geography and a minor in geographic information
 systems.
- Q. Did you work anywhere during your time in college?
- A. Yes. I was very fortunate my junior year to have gotten a paid internship with the Office of the State Engineer in 2007.
 - Q. And how many years did you work as an intern?
 - A. Two years.
- Q. And what did you do after you graduated from college?

1 After I graduated, again, I was very Α. fortunate enough to have a position available at the 2 3 State Engineer's Office, and I applied for it as an 4 assistant water master, went through that interview 5 process, and was selected as the candidate. 6 How long did you hold that position? Q. 7 Α. From 2009 through 2012. 8 And then what position did you acquire after 9 being assistant water master? 10 Α. In 2012, the water master at the time took a 11 different position in the office, and his -- that 12 position was opened. I applied for it and, again, was 13 the selected candidate. 14 So how long have you been the Lower Rio 15 Grande Water Master now? 16 Α. Since 2012, so going on ten years. 17 0. Okay. Let's turn to the demonstrative, Page 18 The header on this demonstrative is, "The Lower 19 Rio Grande Water Master District, the Geographic 20 Boundary." The map on the left, I'll just represent 21 for the Court, is also Exhibit New Mexico 669, and the 22 one on the right is Demonstrative -- New Mexico 23 Demonstrative 57, both of which have been admitted. 2.4 Mr. Serrano, do you recognize those two maps?

Yes, I do.

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And are both of these maps official records 0. of the State Engineer's Office?

Α. Yes, they are.

- 0. And then the map on the right, even though it's demonstrative, you also use that map in your annual reports; is that right?
- Α. That's correct. And I think the version of the map shown here on the screen on the right-hand side is directly pulled from one of our annual reports.
- 0. So using the map on the left, just to start with, would you please describe the geographic area covered by the water master district in the LRG?
- Sure. So the water master district is a pretty large district. It encompasses approximately 4,200 square miles. Starting at its northern extent, you can see there on the map at the base of Elephant Butte Reservoir down to its southern extent at the Texas and New Mexico state boundaries and then, also, the international boundary with the country of Mexico, and from east to west, it goes -- you can see pretty clear there on that map at the east, it's bounded by the Organ Mountains there, and to the west, on the West Mesa in Las Cruces and up into parts of the black range and the Gila National Forest.

Q. Does the Lower Rio Grande Water Master district include other basins besides the LRG Basin?

- A. It does. So specifically, there's two additional administrative basins that are included. The first being the Hot Springs administrative basin, and you can see here on the map in the very far northwest corner, that's the Hot Springs Basin there, and then immediately below that, there's the Las Animas administrative basin.
- Q. For purposes of your testimony today, will you be just focusing on the LRG Basin and not giving testimony on the Hot Springs or Las Animas basin; is that right?
 - A. That's my understanding, yes.
- Q. So then the map on the right, it's just a different version of the water master district boundaries. Would you just describe this map for us?
- A. That's correct. This is more of a -- I guess, an artistic view of the map on the left, and it kind of does a better job of showing some of the different landmarks within the district, some of the major cities. You can see the city of Truth of Consequences, the village of Hatch, city of Las Cruces, all the way down to the southern end, we see Santa Teresa and Sunland Park.

1	Q. Then if we turn to Page 5 of the
2	demonstrative, please. What document is being shown
3	here on this slide?
4	A. This is State Engineer Order No. 169, the
5	creation of the water master district.
6	Q. Does it also create the position of the water
7	master?
8	A. It does, yes.
9	Q. And what's the date of this order? If you go
10	to the last page, actually. If we could pull up
11	A. 431?
12	Q New Mexico Exhibit 429, we can look at the
13	details of it. 431. Sorry. If you turn to the last
14	page, what's the date on this order?
15	A. This is December 3rd of 2004.
16	Q. And who was it signed by?
17	A. State engineer at the time, John D'Antonio.
18	Q. Is he still the same state engineer today?
19	A. Yes.
20	Q. To your knowledge, why was the LRG water
21	master position created?
22	A. Well, as I understand it, in the context of
23	of active water resource management and that
24	legislation that was passed in and around the same
25	time, it allowed for several tools and additional

jurisdictional authority granted to the state engineer. Some of those tools included the creation of water master districts and the appointment of water masters to help administer the State's limited resources, and I believe that's the purpose the Lower Rio Grande Water Master District was created at that time, and I understand there was several other districts that were identified as areas of critical need.

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- Q. I'm going to walk through just a couple sections in this order. If we turn on -- look at the first page, please, under the statutory authorities, what is this section describing in Paragraphs 3 and 4?
- A. It's just generally describing the state engineer statutory authority to oversee all the waters within the State of New Mexico.
- Q. And then at the bottom of that same page under, "Findings of facts," what does the first paragraph describe?
- A. Here it describes that in order to properly apportion the waters of the Lower Rio Grande Stream System in Sierra and Dona Ana Counties, the establishment of the Rio Grande Water Master District and the appointment of a water master is necessary.
 - Q. Then looking at Page 2, Paragraph 3, we're

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still under the findings of facts. What is this summarizing here in this paragraph?

- Here, it's just identifying some of the major Α. water users within the district, to include the Elephant Butte Irrigation District, the City of Las Cruces, and a number of mutual domestic water users association, as well as commercial industrial uses, and a few other users within the district.
- And then under findings of fact, Paragraphs 5 0. and 6, these are both short statements, but what are these two paragraphs describing?
- That the recent drought in the state has Α. created some water shortage crisis, specifically within the Lower Rio Grande Stream System, in that the shortage of water within the Lower Rio Grande is a problem affecting all the citizens of both Sierra and Dona Ana Counties.
- And then on the same page under conclusions Q. of law, the second header administration of affected water rights, if we could call out Paragraph 4 there, what is Paragraph 4 concluding here?
- Α. That the state engineer concludes the administration of groundwater rights in the district is necessary for the protection of the public and protection of prior surface water and groundwater

rights in the district, as well as to prevent waste.

- Q. Okay. Then onto Page 3, Paragraph 6, this is stating, "The state engineer concluded that the water master of the district created by this order shall perform certain duties." Would you describe, based on Paragraph 6, what these duties are?
- A. Yes. And these duties, they kind of carry over from the statutes and the administrative code that I mentioned earlier. You see here in Subparagraph A, that first duty says to curtail illegal diversions. The next one, B, is, "Measure and report water usage in the district; C is curtail out of priority diversions determined by the state engineer to be causing injury to senior rights; D, administer water usage according to any agreements entered into by the water right owners of the district; and E, coordinate, where indicated, with the United States Bureau of Reclamation and with the Elephant Butte Irrigation District ditch riders so as to ensure appropriate regulation and control of groundwater withdrawals."
- Q. And do you agree that that's an accurate list of your duties?
 - A. Yes.

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Q. On a practical level, though, day-to-day,

what do your duties entail?

- A. Well, we do a number of different things. Primarily, we conduct field investigations and inspections of points of diversions and water right places of use to ensure compliance with all applicable state laws, rules, regulations, court orders, as well as permit conditions, and we also regulate and control the water usage within the district. We measure and report that usage, and we also take enforcement and compliance actions.
 - Q. Do you enforce metering requirements?
- 12 A. Yes, we do.
 - Q. Do you collect meter data in recordings?
 - A. Yes, we do.
 - Q. Do you and your assistant water masters perform any collection and input of that information into the WATERS database?
 - A. Yes. So any -- any reading that we collect in the field or any reading that's submitted to us gets entered into our standardized WATERS database.
 - Q. And that's a public database; is that right?
 - A. It is, yes. There's a public facing user interface that the public can access.
 - Q. As part of your job duties, are you required to prepare an annual report?

A. Yes, ma'am.

Q. And then since you're the water master, do you also -- are you responsible for overseeing your staff?

- A. Yes. So I currently have a staff of four assistant water masters, and they assist me in my duties.
- Q. And then back on the order, at the very bottom of Page 3 rolling over to Page 4, it says, "it is so ordered." What does this document then ultimately order?
- A. That it's necessary to create a water master district and appoint a water master.
- Q. And then if we then go onto demonstrative slide Page 6, please, of our demonstrative,

 Mr. Serrano, looking at the information of the left-hand side, do you have a staff that help you with your duties that you just described?
- A. I do, and they're broken up into two different categories. I have one senior assistant. You can see here that gentleman's name is Juan Carlos Benavides, and I have three additional assistant water masters. You can see here that those individuals are Demetrio Alanis, Danny Carrillo, and Russell Cody Sensiba.

1	Q. And then just to the right of that, do you
2	recognize this chart?
3	A. I do. This is our organizational chart for
4	the District 4 Office of the State Engineer.
5	Q. Before we discuss the chart in detail,
6	explain for us and the Court the State Engineer's
7	Office District. So when you say District 4, what
8	does that mean?
9	A. District 4 is the district that is
10	responsible for administering water rights within a
11	few different basins, the lower Rio Grande, the
12	Tularosa, the Hueco, the Salt, the Las Animas, and the
13	Hot Springs.
14	Q. If we look at New Mexico Demonstrative 63,
15	this was a supplemental exhibit. I don't know if
16	there were any objections to this or not as a
17	demonstrative?
18	MR. GOLDSBERRY: No objection.
19	JUDGE MELLOY: 63 is admitted.
20	Q. (BY MS. THOMPSON) So are you familiar with
21	this map shown on the screen of the state?
22	A. Yes. This map comes from our Website.
23	Q. Is it showing the different state engineer
24	districts throughout the state?
25	A. It does. It shows the administrative

boundaries within each of the seven districts within the state.

- Q. Just to highlight then, District 4 is the district that you're going to give testimony about shortly on that organizational chart; is that right?
 - A. That's correct.

- Q. Okay. So if we could go back then to New Mexico Demonstrative 59, Page 6. Mr. Serrano, will you just start at the top then and just walk us through how District 4 is set up and then, you know, specifically highlighting, if you could, your water master group?
- A. Okay. So at the top of the chart, you see here in the demonstrative, you can see here we have our -- our district manager, and that gentleman's name is Craig Cathey listed there. Immediately under Mr. Cathey's name, there's two positions. One is currently vacant. These are our engineering tech or domestic technicians that we have in the office. They report directly to Mr. Cathey. And then immediately below that, you can see there's four different sections or groups within the office. Moving over to the far left-hand side, you can see that's my group. That's the Lower Rio Grande Water Master Group, and you can see the four employees that I just spoke about

Immediately adjacent to that moving right, earlier. you can see the header there. It says, "Vacant." That's our Tularosa Basin Group, and they deal with water rights administration in the Tularosa Basin, the Salt Basin, and the Hueco Basin. And then continuing to move on to the right, you can see there, there's the next column with the header for Ms. Cheryl She's the basin supervisor or basin manager for the Lower Rio Grande Basin Administrative Group, and they review and issue permits in the Lower Rio Grande, the Hot Springs, and the Las Animas Basin -basins. And then moving on over to the right, the far right-hand side, this is our water rights abstracting bureau, our local group, and you can see there the manager there is Ms. Nancy Erickson, and she has a staff of six individuals, and there's currently three vacancies in her group.

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- Q. Mr. Serrano, so on the water rights abstracting group, could you just explain what it is that they do, what their functions are?
- A. So that's a group that maintains our -- our statewide database, and they're charged with abstracting and entering all transactions that come into the State Engineer's Office into our -- again, our standardized database and doing a QA/QC process

and making sure everything that's entered is accurate.

Q. So essentially, archiving documents, hard

copies, and keeping up with the online database?

A. That's correct.

- Q. And then you mentioned, I think the third column over, Ms. Thacker heads up the LRG water rights group. Explain a little more detail what their functions are.
- A. So the water rights group there under Ms. Thacker, they review and entertain applications that are submitted to the state engineer, and they'll make recommendations and then approve or deny permits.
- Q. And the Tularosa group, that's not something that you're addressing today, right? That's a separate basin that has separate regulations, correct?
- A. That's correct. I won't be addressing that today.
- Q. So the moving back to your group and your assistants, you mentioned earlier what your duties are. How do your assistant water master duties differ from your duties?
- A. Well, primarily their function is to be our eyes and ears are present in the field. They spend approximately 60 percent of their total work hours in the field conducting field inspections, like I said,

ensuring compliance with all permit conditions, applicable rules and regulations, identifying illegal uses, drafting field reports and making recommendations back to me on any actions they see that might need to be taken.

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- Q. Where do you and your assistant water master spend most of your time? Are you in an office or are you out in the field mostly?
- A. Primarily, we're out in the field. My time more recently has been more office in preparation for, of course, this proceeding, but most of the time generally, we're in the field.
- Q. And when you're in the field, do you utilize any special equipment while you're out in the field?
- A. Yes. We have lots of equipment, all the way from the very bottom end from basic hand tools, you know, shovels and things of that nature that we use to clean ditches and make sure that our measurement sites are operating properly all the way up to, you know, high-tech radio communications equipment, ultrasonic flow meter devices that we use for testing meters, flow tracker equipment that we use for in stream measurements, GPSs that we use for requiring fill locations and identifying places of use. A lot of different tools.

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- Q. If we move onto Demonstrative Page 7, please, on the left-hand side of this slide, does it correctly list your three primary activities that you do in the field?
 - A. Yes, it does.
- Q. Then on the right-hand side, there's two pictures. Would you just briefly describe what the top picture is showing?
- Α. You can see here in the top picture, that's a photo that was -- that was taken of me. Here, we're in the field. We're conducting a field measurement, trying to establish a flow rate using our ultrasonic test equipment, and then getting and taking those results and comparing it to the accuracy of the installed meter to make sure that that particular meter on that well is operating within plus or minus 10 percent, as is required by the metering order. And then moving onto that bottom photo, that's another photograph that was taken here meeting with some of our contractors at this location. This is the Holquin river pump site. We're getting ready to start construction here on a surface water measurement site that we own and operate at this location.
- Q. Okay. We'll come back to that later and discuss in more detail why there's a measurement at

that particular site, but let's turn to more specifics of the administration in the Lower Rio Grande Basin.

Do you track all water uses, you know, as far as tallying and totalizing those water uses in the LRG Basin?

A. Yes.

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- Q. And do you report those amounts in your annual reports each year?
 - A. Yes, we do.

MS. THOMPSON: If we could pull up New Mexico 929, Page 16, please.

- Q. (BY MS. THOMPSON) This is a page from the 2020 Water Master Annual Report, all of which have been admitted. So referring to this chart,
 Mr. Serrano, if you could just describe for us, what are the primary water uses in the LRG Basin?
- A. There are several water uses. Here in this chart, we can attempt to kind of categorize those, and what you see here is that we have at the very top irrigation. That would be the primary use in the Lower Rio Grande consistently makes up between 80 and 85 percent of the total water use. The next category down you see is drinking water, and that consists of municipal supply as well as mutual domestic, which are regional water systems that supply local areas outside

of the larger municipalities, and then we also have some estimates for unmetered domestic use within that category, and then you also see we have New Mexico State University, the State of Las Cruces, mutual domestics as I mentioned there, and then broken out is other drinking water type uses, and that might consist of water rights that are identified for mobile home type parks or subdivisions, something that doesn't necessarily fall directly into the municipal category. And then continuing on down, we have commercial, industrial, and dairy uses. Those consist of entities such as P&M, I believe you heard from -- P&M earlier last week, and then we also have several dairies in the area, NASA White Sands Test Facility, we have Spaceport America within the Lower Rio Grande, and other smaller commercial-type uses.

- Q. And as you mentioned, we heard from P&M on commercial. I believe we also heard from City of Las Cruces and then New Mexico State University, but do you track these uses every single year and report them in your annual report?
 - A. Yes, we do.

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Q. And then like you said before, your order of magnitude, the irrigation use is clearly at the top here and the highest use. Just walk through and

describe for us about how much acre-feet per year is
used for these different uses, please?

- Well, if you're looking at in this chart, the Α. year 2020, you can see that 218,231 acre-feet of groundwater was diverted for irrigation purposes, and that consisted of 82 percent of the total use. drinking water municipal type, which makes -- consists of all those subcategories there, you see the City of Las Cruces, New Mexico State University, mutual domestics and other drinking water, that, in 2020, consisted of 40,164 acre-feet, and 15 percent of the total water use. Commercial, industrial, and dairy, you can see in 2020, we're reporting a usage there of 6,662 acre-feet on the order of 2.51 percent of total water use in that year, and then all other uses, these are just categories that don't necessarily fit into the other three. You can see we have 738 acre-feet diverted consisting of 0.28 percent of total use that year.
- Q. Thank you. Then as part of your water master duties, do you measure or deliver the Rio Grande Project surface water deliveries to EBID?
 - A. I do not.

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- Q. And whose responsibility is that?
- A. It's my understanding that that's a statutory

1 responsibility of the Elephant Butte Irrigation 2 District. 3 So just to be clear, as part of your duties, 0. 4 you do not administer the Project surface water 5 released from the reservoir and delivered to EBID 6 farmers? 7 Α. That's correct. 8 Do you administer the groundwater throughout 0. 9 the basin? 10 Α. Yes. 11 Do you administer the groundwater even within 0. 12 EBID? 13 Α. Yes. We do. 14 0. Do you administer any non-EBID surface water 15 diversions in the basin? 16 Α. Yes, we do. We have a few non-EBID surface 17 diversions. 18 And what are those commonly referred to? Q. 19 Α. I think I've heard here in terms called river 20 pumpers. 21 0. I mean, the -- excuse me. The non-EBID 22 surface water diversions that are the, I think we 23 referred to as the pre-project rights? 2.4 Α. Or pre-project rights, that's correct. 25 Okay. And how many pre-project rights exist 0.

on the Rio Grande?

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- A. On the Rio Grande below Caballo Reservoir at this point in time, there's approximately three.
- Q. There was testimony on this I think from New Mexico's counsel the other day in response to a question from the Special Master, but would you please go through and based on your administrative duties, list those three pre-project rights?
- A. So the first, starting at Caballo Reservoir, we have the users of the Bonita Lateral, and I believe the Special Master saw that on the basin tour.

 There's -- there's a few -- there's several users on the Bonita, but that's one diversion point. The next one moving on down the river is the Holguin river pump, and that serves the irrigation of approximately 90 acres, and then moving on down to the southern end of the Rincon system, that's where the Horner river pump is located, and that serves approximately 25 acres.
- Q. Do you recall by chance how many total acres and acre-feet per year those pre-project rights total up to?
- A. All total, it's a little more than 300 acres, and the -- the amount of water on average is anywhere between 1,200 to 1,500 acre-feet a year, and that

1 changes because this is all open ground. There's no 2 permanent crop so depending on the crop rotation, that 3 -- that amount of water use would fluctuate. 4 Q. And then are there any EBID surface water 5 diversions besides the project canal diversions below 6 Caballo Reservoir? 7 Α. Yes, there are. 8 Are those alternate points of diversion to 0. 9 the canal diversions? 10 Alternate or additional. Α. 11 And about how many of those surface Q. 12 diversions exist? 13 Α. There's three or four. 14 0. And those are all approved by EBID? 15 Α. As I understand it, yes. 16 Q. And to your recollection, have -- has -- on 17 those particular rights, are those metered? 18 Α. Those additional points of diversion, Yes. 19 they are all metered. 20 And who are those meter readings submitted 0. 21 to? 22 I believe they're reported to the Elephant Α. 23 Butte Irrigation District, and they're accounted for 2.4 as part of those particular lands, project deliveries,

or allotment for that year.

1 Do you administer those surface water Q. 2 diversions outside of the Project release time? 3 Α. Yes, we have. Why is that? 4 0. 5 Basically those diversions can't be used Α. outside of an accepted time frame that the Elephant 6 7 Butte Irrigation District is taking delivery of 8 Project water. In addition to that, they have to be 9 current with their tax assessment, and they have to 10 have an approved order in with the irrigation 11 district. So when -- when Elephant Butte is not 12 taking delivery of Project surface water, we want to

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taking any delivery.

Q. Let's discuss new water right appropriations in the LRG. Are new surface water appropriations allowed?

make sure that those points of diversion are not

- A. No, ma'am. The state engineer took jurisdiction over surface water at the onset of the water code in 1907, and no new surface water appropriations have been allowed in the entire state after that date.
- Q. And then we've heard testimony about the groundwater basin being declared in 1980 and extended in 1982. Are you familiar with those declarations?

1 Α. Yes. 2 If we could turn to Demonstrative 59, Slide 0. 3 What's the document shown on this slide? 8, please. This is the first basin declaration. This is 4 Α. 5 Special Order No. 126. 6 And what's the date of this first 0. 7 declaration? 8 Α. This is September 11th, 1980. 9 And then flipping over to Slide 9, what's the 0. 10 document shown on this slide? 11 Α. This is the basin extension. This was 1982, 12 and it extended the administrative basin up into --13 from just Dona Ana County up into Sierra and Grant 14 Counties. 15 0. We'll take a closer look at these, but by 16 declaring a groundwater basin, does the state engineer 17 assume jurisdiction over the groundwater? 18 Α. It's my understanding that by declaring Yes. 19 a basin, the state engineer is asserting a statutory 20 authority and jurisdiction over groundwater within the

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designated basin whereby any individual or entity

wishing to appropriate new waters or make changes to

engineer, and if upon review of those applications,

it's found that those proposed changes might impair

existing water rights have to first apply to the state

water rights over their ownership and/or cause depletions to the river flows, the stream flow, then those applications could be denied and/or they could be conditions -- conditioned, excuse me, subject to complete offset of those potential depletions or impairments.

- Q. Let's look at Joint Exhibit 467, which has been admitted. This, just for the Court's record here, I'm just calling out the first declaration that we just saw on the demonstrative from 1980. This first page is just a cover sheet is my understanding so let's go to the second page, please. And,

 Mr. Serrano, if you could just look at the caption on this page, what area is this 1980 declaration declaring as part of the underground basin, which county?
 - A. This was specific to Dona Ana County.
- Q. And then looking at the first page of the declaration at Section 3, what is this section concluding?
- A. Here, it's concluding that there is known to exist an underground water basin, the boundaries of which are reasonably ascertainable in Dona Ana County, within the State of New Mexico, in which new appropriations of water might impair existing water

rights.

- Q. And then at Section 4, what does that statement provide about surface water and groundwater?
- A. Here it states that the surface and underground waters within the boundaries of the basin are interrelated.
- Q. And then the rest of the order appears to be a legal description as you look down through the rest of the page and then even over to the next page. What does that legal description describing?
- A. Here, it describes the area of the -- of the 1980 basin within Dona Ana County.
- Q. Okay. If we flip to the last page, and then there's a map. Have you seen this map before attached to the declaration?
 - A. Yes, I have.
 - Q. And what is this map depicting?
- A. This is a -- a spatial representation of the legal description from the order that we just saw, and it shows the -- the 1980 extent of the basin from basically the northern extent at Leasburg, maybe a little bit north of Leasburg, all the way down to the state line.
 - Q. Which basin in the LRG is this encompassing?
- A. This would be the -- the Mesilla portion.

- Q. Okay. And then if we go over to Joint Exhibit 468, please. This was also previously admitted. Again, looking at the caption here on this exhibit, how does the state engineer order here extend the underground basin?
- A. It extends the basin up into Grant and Sierra Counties.
- Q. And then, again, looking at Sections 3, 4, and 5, similar to what we did before, does this order have the same conclusions as the first order?
 - A. Yes. They're pretty much identical.
- Q. So, now, we've reviewed then the 1980 order and the 1982 extension for the declarations, and I know you gave some testimony when we started this, but would you just describe again with regard to administration of water rights, what is the effect of declaring this underground basin?
- A. Again, it's -- it's my understanding that the effect is that the state engineer at this time is asserting his statutory authority and jurisdiction over groundwater within the basin, whereby anybody wishing to make any sort of change or apply for -- for new water would have to first apply with the state engineer before that can be allowed.
 - Q. And what would they have to show in order to

get a groundwater right?

A. A couple of different things. One, that there's no -- that that new proposal doesn't impair rights -- existing rights of other ownership; and two, that that new proposal will not impair the flows of the Rio Grande.

- Q. And if there is any impairment, what's required after the declaration for the water right owner to get an approval?
- A. It's my understanding that if there's measured effects that are found, that those effects would have to be offset at a rate of one to one.
 - Q. What do you mean by an offset?
- A. That senior water rights within the basin would have to be acquired and retired in order to facilitate the offset of those measured effects.
- Q. For you, doing the day-to-day enforcement, how does the declaration impact your work as the water master?
- A. I would say it impacts our day-to-day work tremendously. It kind of established a baseline from which we operate, no new uses could occur without approval from the state engineer after the -- either the '80 or the '82 date, and if we find those types of uses occurring, then we -- we enforce against them.

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- Q. What about if there's a new use with offsets, do you have any role there?
- A. Yes. A measurement role and an ultimate compliance role. so any uses that -- or permits that are issued with conditions requiring offsets, we would have to track those, either the lands from which those offsets are coming from, or the amount of water that's being delivered for offset if it's in the form of a discharge credit, you know, from a discharge facility.
- Q. So just to confirm then, can new groundwater rights be approved in District 4 without an offset?
- A. It's my understanding that they cannot without an offset.
- Q. And have you investigated whether or not there have been any new groundwater rights approved without an offset?
 - A. Yes. We have taken a look at that.
- Q. And what would -- what did your investigation conclude?
- A. We found that there's really only three instances of permits that were issued post 1980 or 1982 that were approved without offset.
- Q. We're going to look at that search you did, but just describe for me then what you did for the steps for this search that you're going to testify to?

Well, in working with our local water 1 Α. abstracts and bureau, our database folks, we ran a 2 3 number of different database queries to identify any 4 sort of permit that may have been issued since the 5 establishment of the basin in '80 or '82, so we ran 6 those queries based on priority date to see if any 7 permit showed up, and from there, we had a list of 8 results that came up and then we were able to go and 9 look at each of those individually and the 10 circumstances surrounding the approval of those 11 permits to see if, in fact, they're truly post-basin 12 appropriations without offset.

- Q. And did you summarize those results in a declaration that was previously filed in this case?
- A. Yes, I did.
- Q. Let's look at New Mexico 868, please. Is this the table that was part of your declaration?
- 18 A. Yes.

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- Q. Did you prepare this table?
- 20 A. I did.
 - Q. Did you prepare it as part of your job duties?
 - A. Yes.
 - Q. Does it summarize your research?
- 25 A. It does.

MS. THOMPSON: Move to admit New Mexico 2 868, please.

MR. GOLDSBERRY: No objection.

JUDGE MELLOY: New Mexico 886 is

admitted.

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- Q. (BY MS. THOMPSON) So, Mr. Serrano, describe for us what this table is showing, what the conclusions from your search?
- Α. This table is summarizing our conclusions, and here you see there's really three files that stood out to us when we were looking at this issue. And I'll just -- I'll just explain for the Court that there's the column headings here, you can see there's a file number, there's a use category, total diversion in terms of acre-feet, the official priority date, as was listed in the WATERS database, and then comments that we made as we conducted our -- our research of Here, the first two, we found that the the file. dates listed in the database were in need of correction, basically the -- as we researched the file, it turned out that these two are actually pre-basin water rights, and as the approval got processed through the system, it ended up with a post-basin priority date. And more specifically, the second one listed under File No. 5406, that was one

1 that had gone through the Lower Rio Grande 2 Adjudication, and it identified a 1985 priority date, 3 but as we reviewed the file, there was clear evidence 4 that that water right had a pre-basin water right and 5 a declaration with claims of priorities going all the 6 way back to 1890 and then some additional well record 7 that showed drilling of wells, you know, right around 8 So those first two are really not new 9 appropriations. They're -- they're -- they're 10 pre-basin water rights. And then the third one there 11 at the bottom, this is the only one that we could find 12 that -- that is an actual post-basin appropriation 13 without offsets, and as we review the recommendations 14 on this particular approval, there was -- there was 15 some modeling that was done and some recommendations 16 to suggest that this small amount of new 17 appropriation, 3.17 acre-feet, would not impact other 18 rights of an ownership for the flows of the river, and 19 -- and it's also -- I'll just add, that particular 20 water right is subject to conditions that require the 21 owner to provide proof of beneficial use, and we 22 expect that to come in very shortly, and it's very 23 likely that that use would be less than the approved 24 3.17.

Q. So to conclude then, is it correct to say

1 then that there's only been one water right permit 2 issued without offsets since 1980, and it's the 3.17 3 that you just testified to? 4 Α. Based on our review of this issue, that's 5 what we found. 6 And on that particular right, the reason it Q. 7 was issued, as I understood your testimony, is that 8 because it was determined through modeling, there 9 wasn't impairment or impact to the stream? 10 Α. Right. Through the review process, that 11 determination was made. 12 Q. 13 since the declaration of the basin with offsets? 14 With offsets, it's my recollection that

- Do you know how many permits have been issued
- there's approximately 15 individual water rights or permits that have been issued.
- 0. Each one of those, though, are new appropriations with offsets?

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- Actually, those would be permits that were Α. issued for continued development of pre-basin water rights, and that amount of continued development, subject to 100 percent offset.
- Okay. Do you know if those 15 water rights 0. with offsets, have those been exercised, have those been put to beneficial use?

A. All of them have not at this point in time.

Q. Do you know why not?

- A. I believe they haven't met the individual threshold criteria where they would start dipping into those accounts where they would require offset.
- Q. So based on that testimony then, practically speaking, would you agree that new groundwater rights are essentially not allowed without offsets in the Lower Rio Grande Basin?
 - A. As a practical matter, yes.
- Q. Would you please describe for the Court then what type of applications do you see in District 4? What type of applications get filed with that water rights group that you mentioned before?
- A. We see a number of different types of applications. The first one would be domestic type applications. We get those almost on a daily basis, and those are reviewed by our domestic technicians in the office, and then we also have a number of different, what we would refer to as change applications, and that would be changes to existing water rights, and those consist of replacement wells, supplemental well applications, change place of use applications, change purpose of use, and then also some water leasing type applications.

So the replacement wells, supplemental well, 1 0. 2 change in place of use, purpose of use, and water 3 leasing, are those all under the umbrella of changes 4 of water rights? 5 Α. That's correct. 6 Q. Then you mentioned the second category, the 7 domestic applications. What are those? 8 Those are applications for wells that fall 9 under what we refer to as the statutory reference 10 would be 7212.1 type applications, so single household 11 domestic use or -- and/or livestock type applications. 12 Q.

- Q. Did that use show up on the chart we looked at earlier when you were recording your total water use?
 - A. It did, yes.

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- Q. And what is that total amount per year that you estimate from the domestic use?
- A. So in our annual report, we use a figure of 2,400 acre-feet per year of un-metered domestic, and we generated that number working with our hydrology bureau and specifically Dr. Barroll when she was employed with the agency. That's a number that reflects un-metered domestic use, a reasonable reflection, based on the number of permits that were out there.

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Let's look at Exhibit 881, please. 0. What type of application is shown here on the screen?

This would be one of those change Α. applications I was just referring to.

- 0. And looking at the top, what are the different types of changes that can be requested with this application?
- Well, you can see here at the top, I'll just Α. start by saying, this is our -- our standard form for all change applications and this is a statewide form and we referred to this as our WR-06 form. top, you can see there's three boxes there. The first box on the left-hand side, you can see there's two options, one for change purpose of use, and one for change place of use, and then there's also a designation for whether or not this application applies to groundwater rights or surface water rights. And then in the middle box, you can see here there's change point of diversion, and this would be commonly referred to as a replacement well application, and you can see, again, there's a designation on whether or not if this application is specific to groundwater or surface water in terms of move-from location and move-to location. And then on the far right-hand side, that third box, you can see here is where

somebody -- this would be a supplemental designation here, somebody is trying to apply for a supplemental well, and they would check the box, additional groundwater point of diversion or additional surface water point of diversion.

- Q. Just to be clear then, is this the application for any change of water right?
 - A. Yes, it is.

- Q. And then after a change of water right application is submitted to District 4, does the water rights group that we talked about earlier do any evaluation of the application?
- A. Yes. Once these applications are received, they'll generally go to the basin supervisor, in this case the Lower Rio Grande Basin supervisor, and then they'll assign that application to their staff for review.
- Q. And on this example that we're looking at, who's the applicant here?
- A. Here, the applicant is the City of Las Cruces.
- Q. And if we turn to Page 18 of this permit file that we're looking at, what is this document shown on Page 18?
 - A. This would be the recommendations memo from

the water rights specialist that was reviewing this application, and it goes from the specialist back to the basin supervisor for concurrence or approval.

Q. And so is every single change application,

- Q. And so is every single change application, does it go through an evaluation and have a memorandum like this in the permit file?
- A. As I understand it, every non-domestic change application would go through the process.
- Q. And then on Page 24 of this memorandum, what is the section under the header, "Local Impairment/Surface Water Depletion Effect," would you describe that analysis?
- A. Yes. Here you can see, third sentence, it states that, "The investigation indicated the impairment to other wells of other ownership in the area and surface water depletion effects as a result of the drilling of the replacement well would not be greater than those effects incurred historically by the original well."
- Q. And is this no greater than historical effect evaluation done for all the changes of water rights?
 - A. As I understand it, yes.
 - Q. Was this change application published?
- A. That's a requirement of the application process, yes.

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Q. Based on this memorandum, can you tell, were there any protests to this particular change?

- A. Yes. I think if you note -- if you call out at the bottom of Page 24 there under notice of publication, you can see where the specialist is making the statement that no protests of the application were received.
- Q. And if we look then over on to the next page,
 Page 25, at the top under, "Considerations," looking
 at the first bullet, what does this first bullet
 consideration conclude here?
- A. That the replacement well will not result in the impairment to other wells of other ownership in the area greater than those effects incurred historically by the original well.
- Q. Then if you look down at the bottom of the page, what's the conclusion here for this evaluation from the water rights group?
- A. Here you can see the conclusion from the specialist is that it is recommended the application for permit to change location of well, and then it gives the number of the well, be approved as outlined in the attachment, which are conditions of approval to the permit. And you can see the notation on the -- on the left-hand side that the supervisor agrees and

concurs with that recommendation.

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- Q. And then what is your responsibility after a change of water right is approved by the water rights group?
- A. So once these changes are approved, of course they go over to our water rights abstracting bureau when they enter these transactions, these final transactions into the database, and they create a copy that goes to archive and then they maintain a copy here locally at our office, and those local copies, they'll be routed through my office, and I review all of these change type applications and their approved permit conditions to see what conditions my staff and I have to be keeping an eye out for when we're out in the field as we carry this permit through in perpetuity.
- Q. If a change application is requesting a replacement well or supplemental well, do you do any field investigations?
- A. We do. We inspect all replacement and supplemental well applications.
- Q. Give me a sense of just how many change applications you may see in a year in District 4.
- A. There's hundreds. You know, some years are more than others, but, you know, on average, there's

several hundred.

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- Q. But each one of those would go through that same evaluation you just testified to from the water rights group with that memo and evaluation?
 - A. They do, yes.
- Q. And then, again, all of those, if there is a new well, then your group would do a field investigation of that new well; is that right?
 - A. That's correct.
- Q. Okay. So let's turn to well metering. Are meters required on all groundwater wells in the LRG?
- A. Yes. All wells, other than those used for single household domestic and/or livestock purposes are required to be metered in the Lower Rio Grande.
- Q. And is there a metering order applicable to the Lower Rio Grande?
 - A. Yes, there is.
- Q. Let's look at Demonstrative 59, Page 10.
 What is shown on this document here, if you can maybe start on the list on the left-hand side and describe the documents on the right?
- A. Here, we're seeing that there's -- there's three metering orders that are appurtenant to the Lower Rio Grande. The first was issued in 2004. It was quickly amended in 2005, and then it was

supplemented in 2007.

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Q. Do you know why there's three orders? Do you know the history of why there's three orders?

- A. Well, the original order came out, and then there was a need to amend it. There was some clarifying language that had -- that had to take place, they had to get in there and make a couple small modifications. That's the amendment. And then as I understand it, there was a challenge to the amended metering order from the Elephant Butte Irrigation District and the Salopek 6U Farms with regard to the implementation of the order, how it would take place. That issue was resolved, and I understand there was -- there was some sort of settlement in that matter, and that resulted in the third and final order, which is the supplemental that details our activities for enforcement of the order.
- Q. Let's look at the initial metering order. If you could just flip to Demonstrative Page 11. So I've just called out the first order here with just a couple of the paragraphs called out and highlighted.

 Looking at this slide, Mr. Serrano, would you describe what are the three basic requirements that are included in the initial metering order?
 - A. That all wells, again other than those used

for single household domestic or livestock, be metered by March 1st of 2006 and that there's some installation, maintenance, and repair requirements, as well as reporting requirements. After the meters are installed, they're required to submit meter readings on a quarterly basis.

Q. If we could pull up Exhibit 468, this initial metering order. Excuse me. Sorry. 465. Sorry. I misspoke. Thank you.

And on Page 2, the first -- let's see. The first full paragraph here, again, who was the state engineer at this time?

- A. Mr. John D'Antonio.
- Q. Okay. And then the third paragraph, the metering paragraph, if we could go down to that. Is this the paragraph you mentioned before that requires the totalizing flow meters?
 - A. That's correct.
- Q. Is this the paragraph that describes which wells are required to have those meters?
 - A. Yes.

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- Q. And then the last sentence, is that describing the effective date you just mentioned in your testimony?
- 25 A. Yes. March 1st, 2006.

1	Q. Was the metering order enforced in 2006?
2	A. It's my understanding in the review of the
3	files at that time that it was we did begin to
4	start to enforce and we had some meter installation
5	compliance at that time.
6	Q. Did you achieve complete compliance right
7	away in 2006?
8	A. No, we did not.
9	Q. Did it take a few years then to achieve
LO	compliance?
L1	A. It did. It took some time, roughly three
L2	years, before we had an acceptable rate of compliance.
L3	Q. And what compliance percentages are you
L4	achieving now?
L5	A. We're upwards of 90 percent metering
L6	compliance.
L7	Q. At this time was there a duty of water or a
L8	specific limit on the quantity of pumping back in
L9	2004?
20	A. At that time, there was there was no
21	specific requirement for the quantity. What we did
22	have was designations through permit conditions of the
23	amount of acreage that could be irrigated, and we
24	would enforce to those limitations.

Then under the installation paragraph, the

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submitting that information, and there's some specific information required. The meter make, model, serial number, installation, the units of measure, the

Yes. It just requires that when reporting

multiplier associated with the meter, if any, the date of the reading, as well as, of course, who owns it, an

fourth full paragraph down, what are the requirements through the State Engineer's Office for installation of a meter?

- Α. The meters have to -- first they have to be of a make, model, and operating condition that is acceptable to the State Engineer. So we have a list of meters that are acceptable. And then secondly, they have to be maintained in a condition that they can provide continuous and accurate meter data, and then they have to be available for inspection and testing, and if they -- if they're broken or they need to be replaced or worked on, they have -- the owners then have to advise the state engineer of that activity, that way we can make some estimates during the time that the meter is not installed.
- Q. And then if we go down to the reporting paragraph, would you just summarize for us what's required in the reporting paragraph?

meter readings, they have -- the owner has to be

address, contact information, and they have to be submitted either electronically or in paper to the State Engineer's Office.

2.4

- Q. On this callout, the very last sentence there says, "All over diversions of water made in one accounting year shall be made up during the accounting year following the year in which the over diversion occurred." Is that a current requirement through District 4 for over diversions?
- A. Yes. We maintain that requirement to this day.
- Q. If we could turn to Exhibit 432, please. Do you recognize this exhibit?
 - A. Yes. This is the amended metering order.
- Q. Just remind us, what's the date of this second metering order?
 - A. This was 2005, if I'm not mistaken.
- Q. And what additional requirements did this first amended metering order include?
- A. Really not additional requirements. It just

 -- again, it had some clarifying language, and

 specifically under the Page 2 of the order

 under, "Metering of all groundwater uses," that was -
 in the previous order, it was all one section. So

 here you see we've -- it got broken out, and there's

two subparagraphs here. The first one stating that,
"Multiple water right owners may install and maintain
individual measuring devices," and 2, in the
alternative, if they're not going to install and
maintain individual measurement devices, then they
could continue to use one measurement device from the
well so long as it's reporting all the use that's
being diverted from that well in that the water right
owners maintain their own records of how much water
they each individually use so that in an issue or if
it were to come up that there was an over diversion or
an illegal diversion, we could reasonably ascertain
who was responsible for that activity.

2.4

- Q. Is there the same effective date for this first amended order?
- A. Yes. That did not change. It was still March of 2006.
- Q. And during this time, when these metering orders were coming out, did the State Engineer's Office notify well owners of the well metering requirements?
- A. In my review of the files at this time, I understand that they did. There were several mailings that went out, fliers. There was a couple of public meetings, as I understand it, and also some radio ads

that were aired at that time.

- Q. Let's skip over then to New Mexico Exhibit 433, please. This is the final metering order. 433. Thank you. If you could go to the last page, we'll just check the date of this final order. Do you see the date and the signature here?
 - A. Yes.

2.4

- Q. And what is it? What's the date?
- A. The date is March 28th of 2007.
- Q. And, again, who signed this order?
- A. This was, again, State Engineer John D'Antonio.
- Q. And then what requirements did the supplemental order add to the prior two metering orders?
- A. Well, as I mentioned previously, it's my understanding that the supplemental order was in response to the challenge to the initial metering order, and the settlement of those -- of that challenge was incorporated here, and it details the process for enforcement of the metering order, and we follow this process to the T to this day.
- Q. If we could look at New Mexico Demonstrative Page 12, please -- Demonstrative 59, Page 12. What's shown here on this slide, Mr. Serrano?

A. This is the supplemental metering order, No. 180.

- Q. Are these all three pages of it?
- A. It appears to be, yes.
- Q. And do these lay out the steps required for metering compliance enforcement?
 - A. Yes, it does.

2.4

- Q. Did you develop a demonstrative flowchart showing these steps for the Court?
 - A. I did, yes.
- Q. Okay. If we could go to the next slide then.
 Would you describe the procedures for enforcement
 starting with the Step 1 on this slide?
- A. The procedures for enforcement, as identified in the supplemental metering order, Step 1 here starts with the field inspection. The water master staff will go out in the field, inspect a particular point of diversion, and determine if they're in compliance with the metering order, meaning that they have a meter installed, and it's an acceptable meter, or they're not, and if it's not, then we'll affix a red tag to the well or the point of diversion. That's an initial notice to the water right owner or the well owner that they're not in compliance.
 - Q. If you could go on to Step 2.

A. Then moving on, so you can see as you go across through that arrow, there's a notation that no more than five days, so within five days of that red tag, we generate a field inspection report, and then we also generate a certified notice of noncompliance that's mailed to the -- to the owner, notifying them of the violation and then what the requirements are for coming into compliance.

Q. And then Step 3?

A. Step 3, the owner has 30 days from the date they receive that certified notice in which to contact the water master or assistant water masters and come up with a way for them to come into compliance.

Q. And then on to Step 4 if they're not in compliance?

A. Yes. So you see here, there's two different tracks. If they're not in compliance, after that 30-day period has elapsed, we can work with our administrative litigation unit and do what's called a request for a compliance order. That's an administrative compliance order that would be issued by our administrative litigation unit to the owner that's not in compliance.

Q. And then the last step here, the owner response to the compliance order?

A. And then you see Step 5, the owner response. They either come into compliance after the compliance order is issued and they install a meter that's acceptable or they can request a hearing, at which point that would be set aside with our hearing unit, and we would go to hearing on the issue, or the compliance order -- if compliance isn't achieved, they still go and install a meter, the compliance order can become final, and we can petition our local district court for enforcement of that order.

Q. Thank you. We can take that down now. How many wells are metered in the LRG?

A. Currently, we're tracking approximately 2,650 actively-metered irrigation wells, and then there's an additional 350 municipal commercial and industrial type wells. So a total of 3,000 -- approximately 3,000 wells that are actively metered, and that number, it changes from year to year, as you might imagine, because we have wells that are going offline and coming online so it fluctuates a little bit.

Q. And then remind us again which of the wells in the LRG are not metered?

A. Not metered, that would be single household domestic and/or wells that are used for livestock purposes.

1	Q. And how much water are those wells allowed to
2	pump total?
3	A. Under under the current domestic rules and
4	regulations, 1 acre-foot for domestic use and then if
5	livestock is included, that can be bumped up to 2
6	acre-feet.
7	Q. I think you testified before that there was
8	an estimated total amount since we don't have meter
9	readings for these domestic wells. Will you just
10	remind me what that total amount is again?
11	A. We've estimated that, again, working with our
12	hydrology bureau and Dr. Barroll, 2,400 acre-feet.
13	Q. And what's your understanding of whether
14	these domestic wells have any measurable impact on the
15	stream flows in the basin?
16	A. It's my understanding that it's negligible,
17	if any.
18	Q. Why is that?
19	A. Because that that amount, 2,400, is, you
20	know, less than 1 percent of the total amount of
21	groundwater diverted within the basin.
22	Q. What about return flows from those types of
23	wells?
24	A. Well, there's a couple of different
25	circumstances. If those wells are being used and the

water -- the wastewater generated are being returned to a septic-type system or if those individual supply wells are being diverted to a treatment facility, that roughly 80 percent of that water consume -- 80 percent of that water diverted would be returned in some fashion or another.

- Q. Let's get back then to the metering requirements and the metering orders. How often are meter readings required to be reported?
- A. All irrigation wells are required to report on a quarterly basis. That's January, April, July, and October of each year, and all municipal, commercial, and industrial wells are required to report monthly.
- Q. Okay. So that's a little bit of a change from the meter order, the municipal or monthly; is that right?
- A. That's correct. And those are usually subject to permit conditions, so those permit conditions will have stricter requirements than the metering order does.
- Q. Okay. Once the meter readings are received at your office, what type of verification do you or your assistant water masters do on those reports?
 - A. Well, when the readings are received, they're

all date stamped so we know exactly when it came through the door, and then it gets distributed to myself and my staff. What we do is we try to confirm that the reading is associated with a known point of diversion and a water right and then we turn and enter that data into our WATERS database, and we verify that the reading that we're entering is in conformance — conformance with the historical averages for that well, for that time of the year, and then make sure that it also, by entering that reading, it hasn't caused an issue in terms of over diversion.

- Q. If we could pull up New Mexico Exhibit 789, which has been admitted. Do you recognize this document?
 - A. Yes, I do.

- Q. Would you describe what it is?
- A. This is a multiple meter reading form that's sent in by the City of Las Cruces.
- Q. So walk us through when you received this form, what happens?
- A. Well, like I mentioned, when we receive this form, it'll be date stamped. It'll be assigned to myself or my staff for entry and then we'll go into the system one by one on each of these rows and we'll enter the meter reading that you see here notated

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under totalizing readings, the end reading. So that's the end reading for the month that they're submitting.

Do you know to your knowledge what the check 0. mark means?

- Α. That's part of our standard process. So as we're going along entering these meter readings in the database, we usually check mark to indicate that that reading has been entered.
- Okay. And you've mentioned a few times the 0. WATERS database. We've mentioned it in prior testimony. Would you just describe what the WATERS database is and what it includes?
- Α. So the WATERS database, it's our standardized database for the entire state. This is where -- it's a transactional database where we enter every single transaction that's received and entertained by the State Engineer's Office.
- Again, there's public access to that database Q. online; is that right?
- So there's two components of the Α. database. You know, the first, we commonly refer to as the WATERS database. That's the back end where we enter data, and then there's the front end, which is the public's user interface, and that's the New Mexico water rights reporting system, so if you get out to

our Web site and you try to access the data, that would be under the New Mexico water rights reporting system. And, again, that user interface just pulls from the back end data, which is housed in WATERS.

- Q. Let's look at one example of the water summaries from the WATERS database. Let's look at New Mexico Exhibit 59, Demonstrative Exhibit 59, Page 14, please. Is this a water rights summary from the WATERS database?
 - A. It is.

- Q. And does this summary include meter readings that we were just describing?
- A. It would. You wouldn't be able to see them on this front page, but if you -- if you click on some of these hyperlinks, not in this section that's listed here, but if you can go back, that bottom section where it says, "Current points of diversion," if you were to go into our database and you click on these hyperlinks for these identified points of diversion, it would take you to a section that describes the total -- the well construction for that particular well, and then it would also have every single meter reading that we've ever entered into the database, as well as a annual total for that well.
 - O. And do each of these summaries describe the

location of the wells?

- A. They do, yes.
- O. And where is that on here?
- A. There's two descriptions, again, under that section, "Current points of diversion." There's a legal description that we describe in terms of the public land survey system, so a section township range and quarter section, if we have that, and then you also see there's a more precise X/Y coordinate that's listed, and that's in the UTM coordinate system, and then in addition to that, you can see there's a little globe associated with each of those points of diversion so if you clicked on that globe, it would take you to a -- kind of a Google Maps version of where this well is located.
- Q. Then if we could pull back out and see the whole summary again, what water right is this that we're looking at here?
- A. You can see there at the top, this water right is for the El Paso Electric Company.
- Q. And does this summary provide a total diversion amount for the water right?
- A. It does. You can see there at the top, it lists a few different types of information. It shows, of course, the water right file number, the primary

purpose, in this case is industrial, the status of the water right, and here you can see it's been adjudicated. Acres, if there's an acreage associated with it, in this case, it's a hundred percent consumptive use water right so there's no acreage associated here, and then the total diversion amount associated with that water right, and here you can see that's 2,824 acre-feet.

- Q. And where is this water right located?
- A. This particular water right is on the very southern end of the water master district.
 - Q. How close is it to the El Paso gage?
 - A. It's very close. Within a mile.
 - Q. Just upstream of the gage?
 - A. Upstream, yes, ma'am.

- Q. How do you use the database in your job duties?
- A. Well, there's several different functions. It's very useful to our day-to-day activities. Of course, one we just described how we enter data. The second is we can get in, and we can look at each of these transactions, so all of the applications that are filed are entered and imaged as transactions, and you can click on the hyperlinks and you can access the applications, the reviews, the well logs, the permit

conditions, all that information is going to be here, and it also has the history of the water rights so you can access the entire history from this location. And then we also use it for accounting purposes, more specifically for irrigation-type uses. The summaries are a little different for irrigation in that it kind of breaks out how much water is available to them, what the surface water allotment is, groundwater used to date, percentage of total diverted and how much water they have remaining.

- Q. Okay. And we're going to get to that on another example to show exactly how you calculate the total water use for irrigation use, but before we get there, do you and your water masters input any data into the WATERS database?
- A. We do. And it's restricted, so there is security access that's required for the database, and me and my staff are only allowed to access what's referred to as the meter module portion of the database. That's one table within this relational database, and that's where we input our meter readings and do our accounting.
- Q. And do you use a manual to standardize your procedures for inputting data?
 - A. We do have a manual, yes.

Q. If we could pull up New Mexico Exhibit 939, please, which also has been admitted. Do you recognize this document?

- A. Yes. This is the most recent updated version of our meter module, step-by-step guide.
- Q. Okay. And if we could turn to Page 12 of the document. This section here, "Entering Meter Readings," is this one of the sections you refer to when you were inputting your data?
- A. Yes. And it's important to state that the database, it's -- it's a little different in that it's an old DOS-based program, so all the entry has to be done by key control. So this -- this manual kind of really lays out each step, and the key commands for entry of data.
- Q. Do all of the assistant water masters also use the same procedures laid out in this manual?
- A. We do. We generally refer to them, but I found over the years that it's a lot easier just because of the nature of the database and the way it's -- it's all by key command, it's not really intuitive anymore because all of the other operating systems that we're familiar with are all kind of mouse controlled, so I found that it's better just to have them get in and enter data and start using the

database and then refer back to this manual as -- as issues arise.

- Q. And then just if we could flip to the next page of the manual just very briefly, you mentioned the old DOS system, and then there's a subsequent reading below there. Is this what you were referring to as the old DOS system?
- A. Right. You can see here, it's a pretty -it's a pretty dated system -- operating system, but it
 is functional, and it is -- it's effective at our
 accounting. And this would be a screen that within
 the WATERS database that we would use to enter
 database -- enter meter readings, excuse me.
- Q. Okay. We can take that down. And then we're going to move on to field inspections related to meters and meter readings. What type of regular field inspections do you and your assistant water masters perform on the meters?
- A. There's -- there's a couple of different types of inspections. First, there would be the -- the initial installation inspection. So when the meter is first installed, we'll go out and document all the information associated with the meter, serial number, make, model, initial reading and multiplier and also make sure that it adheres to the installation

standards called out for in the metering order. So
we'll make some measurements to make sure that it's in
conformance with that. From there, we'll also do
follow-up checks, you know, if we receive a reading
that doesn't necessarily fall in line with the
previous readings that were entered, we'll go out and
verify what -- what may have caused that or if it
might have been a transposed number that was
submitted, and then the third type of inspection we'll
do is meter tests. So we try to get out as frequently
as we can and inspect all these meters and test them
to ensure that they're reading within plus or minus 10
percent of actual flow under operating conditions, and
we conduct those tests pretty regularly.

- Q. Other than the metering orders that we looked at before, is there any other guidance that you use on well metering specifications?
- A. We have a set of statewide groundwater measurement specifications, and we do use those.
- Q. Okay. Let's pull up New Mexico Exhibit 162A.

 And this has also been admitted. Would you identify
 this document, please?
- A. Yes. This is our statewide groundwater measurement standards and specifications.
 - Q. Do you use this in conjunction with the prior

metering order -- orders?

A. Yes. We use them in conjunction with each other. They don't stand alone. They blend together, and we make sure that all the requirements of both are being followed.

- Q. And looking at the bottom of Page 1, there's a reference to acceptable meters. Does the state engineer keep a list of acceptable meters that are allowed?
- A. Yes, we do. And we update that periodically, and our -- our statewide group located in Santa Fe, they -- they generally take on that task of updating the acceptable meters list.
- Q. And then over on Page 2, the top of the page,
 Paragraph C, you mentioned before an installed
 accuracy of the meters. Is that what this paragraph
 is referring to?
- A. It is. You can see here where it references that the equipment must be maintained plus or minus 10 percent, and then in addition to that, the design accuracy coming from the factory has to be plus or minus two.
- Q. Then at the bottom of the page, Paragraph K please, it states that the staff may periodically conduct an accuracy test. Is this the testing you

were referring to earlier on your field investigations?

A. That's correct.

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- Q. Okay. Then over on Page 3 at the top of the page, Paragraph L, how quickly does a water user have to replace their meter if it becomes damaged or needs repair?
- Well, if we find something that's damaged or Α. in need of repair, they can reach out and notify us, and they'll be allowed 30 days. If there's any issues that might cause them not to be in compliance within 30 days, then we'll work in good faith with those water right owners to give them a reasonable amount of time, and if we have to, we'll -- we'll do some estimates of water use based on our established flow rate for those particular wells. If a -- if it's a situation where we discover that it's not recording accurately, then they would have 30 days from the date that they received the notice that we talked about earlier in which to comply. And, again, at that point, they can reach out to us, and we'll work with them on trying to get the meter repaired, reinstalled, and get them back in compliance.
- Q. Did you, by chance, hear Mr. Sloan's testimony a few weeks back about being red tagged?

1	A. I did, yes.
2	Q. And do you recall him being red tagged for
3	his meters?
4	A. Yes, I do.
5	Q. Is that just one example of your meter
6	enforcement based on field investigations?
7	A. Yes. That those were examples of
8	situations where we tested his meters, and we found
9	that they were operating in a manner that they were
10	over recording the amount of water that was being used
11	so above 10 percent.
12	Q. And then what happens after you red tag a
13	well?
14	A. So in accordance with our the supplemental
14 15	A. So in accordance with our the supplemental order in our process for enforcement, we red tag a
	
15	order in our process for enforcement, we red tag a
15 16	order in our process for enforcement, we red tag a well. Within five days, we issue a certified notice
15 16 17	order in our process for enforcement, we red tag a well. Within five days, we issue a certified notice of compliance. The owner has 30 days in which to
15 16 17 18	order in our process for enforcement, we red tag a well. Within five days, we issue a certified notice of compliance. The owner has 30 days in which to respond, and that is to either correct the issue or
15 16 17 18	order in our process for enforcement, we red tag a well. Within five days, we issue a certified notice of compliance. The owner has 30 days in which to respond, and that is to either correct the issue or come up with a plan for correction.
15 16 17 18 19	order in our process for enforcement, we red tag a well. Within five days, we issue a certified notice of compliance. The owner has 30 days in which to respond, and that is to either correct the issue or come up with a plan for correction. Q. And then, Mr. Serrano, is there a written
15 16 17 18 19 20 21	order in our process for enforcement, we red tag a well. Within five days, we issue a certified notice of compliance. The owner has 30 days in which to respond, and that is to either correct the issue or come up with a plan for correction. Q. And then, Mr. Serrano, is there a written guidance for surface water diversion metering

we were just looking at, there's also a set of

1 statewide surface water measurement specifications.

- Q. If we could pull up New Mexico Exhibit 163, please, which has also been admitted. What is this document?
- A. This is our statewide surface water measurement specifications.
- Q. And is this the current version of those requirements for surface water metering?
- A. It's my understanding that it is. I did participate in an effort to update this, but I don't think it's been finalized yet.
- Q. How do you use this guidance as part of your job duties?
- A. We use this as a guide when we're doing construction of surface water measurement locations so we follow these standards pretty closely, and we work with our designated contractors that are building those facilities to make sure that these standards are being met.
- Q. Okay. We're going to turn then to metering compliance. If we could look back at New Mexico Demonstrative 59, Page 15, please. Mr. Serrano, what does your office do to encourage meter reading compliance or, you know, what do you do proactively to encourage that compliance?

1	A. Over the last several years, we've taken a
2	few proactive steps to make sure we're getting a a
3	complete and accurate record of the meter readings.
4	The first step in that process is we send out a
5	postcard every year. It's just a a general
6	friendly reminder postcard. That goes out in the
7	middle of December to remind water right owners that
8	they have an obligation to submit a meter reading for
9	January that next month.
10	Q. And if we could pull up New Mexico Exhibit
11	752, please. Do you recognize this document?
12	A. Yes, I do.
13	Q. And what is it?
14	A. This was the postcard or a version of the
15	postcard that we were just talking about.
16	Q. And do you use this as part of your job
17	duties?
18	A. Yes, I do.
19	Q. Do you send this out to water users in the
20	LRG?
21	A. We send this out to all water users who have
22	an actively-metered well.
23	MS. THOMPSON: Move to admit New Mexico
24	Exhibit 752, please.
25	MR. GOLDSBERRY: No objection.

JUDGE MELLOY: 752 is admitted.

MS. THOMPSON: Thank you.

Q. (BY MS. THOMPSON) And if you could --

MR. DUBOIS: Your Honor, I'm sorry. I was actually muted. We actually have an objection to 752. This and a number of others really go to the remedy phase of the case. This is -- you know, this is really more of the -- of the equities stuff that I believe you discussed with Ms. Coleman yesterday morning, so this and -- and some of the other exhibits are similarly situated that they're really premature and belong to the next phase of the case.

MS. THOMPSON: May I respond?

JUDGE MELLOY: You may.

MS. THOMPSON: Your Honor, this is just additional evidence and information about the administration in New Mexico, particularly in the LRG, we, of course, have the Project, which is incorporated into the Compact, and the Project operates in the LRG. The administration of water is, of course, relevant at this phase. It's not only relevant to the course of performance for New Mexico over time; it's relevant to also respond to the lack of administration. We heard from some of the Texas individuals earlier last week, and so I'm not sure why this document in particular

1 would be any different than what we've heard so far on 2 administration from a number of different witnesses. 3 JUDGE MELLOY: Well, I'll let it in. 4 mean, it seems like we're getting kind of far afield 5 here, but I'll let it in. Why don't we take our 6 afternoon break at this point. We'll break until 7 1:15. 8 MS. THOMPSON: Okay. 9 JUDGE MELLOY: Thank you. 10 (Recess.) 11 JUDGE MELLOY: All right. Are we ready 12 Looks like everybody is here. You may to resume? 13 proceed, Ms. Thompson. 14 Thank you, Your Honor. MS. THOMPSON: 15 0. (BY MS. THOMPSON) Mr. Serrano, I think we 16 were looking at New Mexico Exhibit 752, which is on 17 the screen, the meter reading postcard reminder that 18 you send out each year. In looking at Page 2, the top 19 five bullets, just to start there, what are you 20 reminding the water users each year with this 21 postcard? 22 We're reminding that meter readings shall be Α. 23 reported, again, on or before the 10th day of January, 24 April, July, and October. The second bullet, the

water right owner is responsible for installing and

maintaining and repairing the meter. Broken or non-functioning meters must be repaired or replaced within 30 days of the malfunction. If a meter is replaced, they must inform the office of the date of replacement, and that all meters shall be accessible for inspection and testing by a representative of the State Engineer's Office.

- Q. And then at the bottom part of this postcard, you're referring to the notice to state engineer of farms under the same ownership or management or OWMAN are due. Do you see that section?
 - A. Yes, ma'am.
 - Q. And what notice is this referring to here?
- A. This would be the acceptable form or notice that the water right owners are required to submit to the state engineer, if they're proposing to enroll farms in a same ownership management plan.
- Q. So notice of an OWMAN request is required to be submitted to the State Engineer's Office?
- A. Yes.

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- Q. And then if a groundwater owner does not timely submit their meter readings in response to this postcard, what's the next step? What do you do in order to obtain compliance?
 - A. So after this step, you know, we'll compile

all the readings that we receive. We'll enter them into the database, and then we'll run some additional queries to determine which meter reading, which wells with meters are still outstanding, and at that point, we'll send a delinquency letter to those well owners notifying them that they have 10 to 15 days to submit a meter reading.

- Q. And if we look at New Mexico Exhibit 743, please, is this an example of the letter you just described?
 - A. Yes, it is.
- Q. So it's a letter failure to report meter reading notice to the water users?
 - A. Yes.

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- Q. And who prepares the letter?
- A. I prepare all of these letters.
- Q. And then do you sign the letters?
- A. I do. If it's -- if it's a large quantity,

 I'll do an electronic signature.
 - Q. And this is an official record of the State Engineer's Office; is that right?
 - A. That's correct.
- MS. THOMPSON: And I'll move to admit
 New Mexico Exhibit 743, please.
- MR. GOLDSBERRY: No objection.

MR. DUBOIS: I'll just lodge the same objection, Your Honor, that this goes to the remedy phase.

JUDGE MELLOY: Well, I'll admit 743, 1

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JUDGE MELLOY: Well, I'll admit 743, but can we move on a little bit from all these meter reading -- I mean, I think we know they require meters. Seems like we're getting into a lot of minutia here, but you may proceed.

MS. THOMPSON: Sure, Your Honor. And I should just be clear. We're just laying the foundation for the accuracy and the extensive and robust nature of the collection of these meter readings.

JUDGE MELLOY: I understand. This is probably about the fifth witness that's talked about it, though, so let's move on.

MS. THOMPSON: Okay.

- Q. (BY MS. THOMPSON) Then on New Mexico

 Demonstrative Exhibit Page -- 59, page 16, please.

 The third step, the final step on this compliance, what do you mean here by meter blitz?
- A. So, again, after the notice goes out to those owners, we'll compile the data that we receive, run some more database queries, and determine if there's still any meter readings that are outstanding, and at

that point, we'll coordinate an effort to actually send out our water master staff and other district staff into the field to physically acquire those meter readings with the intent of facilitating a complete and accurate data set at the end of each year that we can base our end of the year accounting on.

- Q. And then in order to obtain compliance, do the water masters, in conjunction with the ALU unit, do you have to sometimes litigate these enforcement actions?
- A. On occasion, we do, but generally we have really good compliance after we send out these letters.
- Q. Okay. I'm going to look at one example of the enforcement through litigation, and then we will move onto a separate topic of over diversions here. So let's go to New Mexico Exhibit 677, please. And do you recognize this exhibit?
 - A. Yes, I do.

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- Q. And did you work on this particular enforcement action that went through litigation?
- A. I did. It was myself and my senior assistant that worked on this enforcement.
- Q. And then is this also part of the state engineer records?

1 Yes, it is. Α. 2 MS. THOMPSON: I'll move to admit New 3 Mexico 677, please. 4 MR. GOLDSBERRY: No objection. 5 MR. DUBOIS: Same objection, Your Honor, 6 as far as the -- it goes to the remedy. You're on 7 mute, Your Honor. 8 JUDGE MELLOY: The exhibit is admitted. 9 (BY MS. THOMPSON) Mr. Serrano, if we look at 0. 10 the first page -- excuse me -- sorry. If we move over 11 to Page 3, Paragraphs 15, this section right here, 15, 12 16, 17, is giving a chronology of what happened in 13 this enforcement action. Just to your recollection, 14 would you describe what you recall happened here? 15 Here, the -- the defendant was required to 16 install a meter per his permit conditions for 17 replacement well. He did not do that, and we pursued 18 an enforcement action. We issued a compliance order 19 through our administrative litigation unit and then he 20 still did not comply with that order and we petitioned 21 district court for enforcement asking for injunctive 22 relief and enforcement of the final compliance order. 23 And Exhibit 4 on Page 18, is that your letter Q.

seeking compliance? Is this from your group?

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assistant water master, and I'll note that I just -- I review every single one of these before they go out.

- Q. And then Exhibit 2 on Page 12, is that the compliance order that's sent out by the ALU unit that you mentioned earlier?
 - A. Yes, it is.
- Q. And is this a typical compliance order? If we could pull up both pages of this Exhibit 2 here.

 Does this look like a typical compliance order that you've seen before for enforcement actions?
- A. I would agree with that. I think it's -- the language is usually pretty consistent, with the exceptions of the particulars of the individual water right we're trying to address.
- Q. And then on the second page towards the bottom, what are the possible penalties that the state engineer office can enforce for noncompliance?
- A. In this section, you see that the potential penalties are up to a hundred dollars a day civil penalty may be assessed and/or up to double the amount of water that's diverted during the time that the owner is in a state of noncompliance.
- Q. Then back on Page 4, bottom of the page, please, and then over to 5, just again here under the "wherefore" section, what's the relief sought

here? Is that similar to what we saw in the compliance order?

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- A. Yes. We're requesting that the compliance order become final and that we receive injunctive relief preventing any further illegal diversions.
- Q. And what else under 3 and 4, what is it the state engineer is -- has available to it for penalties for noncompliance?
- A. Again, double the amount of water diverted during the period of noncompliance, and we can request a civil penalty up to a hundred dollars a day from every day after the compliance order is final -- or actually, from the date the compliant order is issued.
- Q. Okay. Roughly how many enforcement actions are resolved locally versus having to go through this enforcement action proceeding?
- A. The vast majority are resolved at the local level.
- Q. Okay. So we've gone through quite a bit of testimony on metering requirements and metering enforcement, and I want to now turn to when a well owner over diverts. What happens to an over diversion, what type of enforcement is available?
- A. We have a similar but different process for over diversions. We refer to it as our expedited

hearing procedure for over diversions.

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- Q. Just to start for laying a little bit of background here, how much water is allowed to be diverted from a particular well?
- There's a few different scenarios. In the Α. instance of consumptive use rights -- rights, municipal, industrial, commercial, it would be an amount that's designated, the historic beneficial use amount that's identified either in the permits or their adjudicated sub-file orders. The second would be in terms of a groundwater-only irrigation right. They would be allowed to divert up to 4-and-a-half acre-feet per acre of groundwater, and then in a situation of what we refer to as a combined right, meaning that they're -- they have surface water and supplemental groundwater, that amount of available groundwater each year changes depending on whatever the surface water allotment is for that particular year.
- Q. And so those are the amounts that you administer to; is that right?
 - A. Yes.
- Q. And where do these amounts come from for irrigation withdrawals?
 - A. The -- I'm sorry. Can you restate the

question?

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- Q. Sure. The source -- what's the source for those limitations on irrigation withdrawals? I think we heard testimony from John Longworth yesterday. I just wanted to connect the dots here.
- A. The source -- oh, the figures would be from the Stream System Issue 101?
 - Q. Okay.
- A. Final order, final judgment, and incorporated settlement agreement.
- Q. Okay. And we heard questions and testimony about this 101 order and its allowance for water users to prove up to 5.5 acre-feet per acre. Are you aware of this provision of the 101 order?
- A. Yes, I am.
 - Q. And what is the process in District 4 for allowing a water user to try to claim up to the 5.5 acre-feet per acre?
 - A. That's a process that's handled through our local legal adjudication program, but basically what was required per the order was that water right owners intending to prove that higher beneficial use amount above 4.5 had to have provided notice to the state engineer by a designated date and then after that date, they then had to provide evidence to

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substantiate that claim of a higher FDR amount, and there was a specified date within the 101 order also for submission of that evidence.

0. Do you know how many notices of intent have been filed for District -- in District 4?

It's my understanding in talking with our Α. legal adjudication program that there are approximately 1,017 notices that were received. I'll just note that that's comprised of two different figures. So there's the first, which is just a basic notice of intent, and then there's a second, which is a notice of intent immature pecan trees. There were separate provisions in the 101 agreement that allowed for notice of intent with different dates for immature pecan trees. So the cumulative total between those two categories is 1,017.

And how many of those notices of intent have 0. been approved to date?

Α. Well, there were approximately 430 that were -- that did not meet the evidence burden. They did not provide evidence so those were immediately denied, so those water rights would be subject to the 4.5 acre-feet per acre limit. There were 580 -approximately 580 that did provide evidence, so that's kind of the baseline that we're working with.

there, it's my understanding that there's been analysis, at least fully or partially, on 69 of those files that -- those notices that did submit evidence, and then there's some acreage determinations that came out of that analysis. So approximately 1,500 acres has received -- been approved based on that analysis an FDR greater than 4.5 acre-feet per acre, and then there's another 1,400 acres that was analyzed where that evidence burden was not met so they subsequently received the 4.5 acre-feet per acre.

- Q. Okay. And then so since there's 69 reviewed, there's quite a few left to review; is that right?
 - A. That's correct.

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- Q. And that process, does that go through the adjudication attorneys for review?
- A. The attorneys as well as the -- the technical folks on the ground that are making those recommendations.
- Q. Okay. But just because someone files a notice of intent with support, that does not mean that those are going to be approved, per se, correct?
 - A. That's my understanding.
- Q. In recognizing that until the review and evaluation occurs, what are those water users allowed to pump acre-feet per acre currently?

A. So those water users that did provide notice of intent and then followed up with evidence, you know, it's been directed to allow for those to divert up to the 5.5 acre-feet per acre until we hear

otherwise from the adjudicating court.

- Q. Okay. Walk us through how in District 4, you determine the total amount of groundwater that can be drawn -- withdrawn each year from a particular well, whether it's the 4.5 or the 5.5. Just walk us through those steps that you take each year.
- A. Are you referring to the combined water rights scenario?
 - Q. Yes. Thank you.

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A. Okay. So in a combined water rights scenario, you know, we have two components of the water right, the first being the surface water component. So we take information that we get from the Elephant Butte Irrigation District that quantifies the allotment for that year, and we take that off the top essentially and assume that all that water would be diverted delivered by EBID and then used by the water right owner. And then the remainder, whatever is left, up to the limit, whether that be 4.5, 5.5, or something in between, is the amount that can be pumped from groundwater.

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And do you track that combined use through Q. your database?

- Α. Yes, we do. So when we receive those allotments every year, we've developed a process where we can enter that allotment into the WATERS database, and it automatically adjusts all of the accounts, irrigation accounts, to reflect how much groundwater they can then pump for the year.
- If we could pull up New Mexico Demonstrative 0. 58, please, which has been admitted. This is just another example from the WATERS database, and we're going to be using this example later on when we talk about the OWMAN program, but for purposes of describing right now this combined water use, will you show where it's reflected on here how you account for surface water plus the groundwater for a particular water right?
- If you can call out that section Α. under "metered amounts" towards the top. So here is where we do that accounting, and, again, this is -this is a front-end reflection of public -publicly-available reflection of what the back end of the database is doing. So here you can see under metered amounts, we have the year. We always designate the year. Metered groundwater diversion,

this would be the amount of groundwater diverted based on the meter readings that were submitted to us. You have an EBID surface water allotment. Here is where we input that allotment for the year, multiply it by the water right acres to get a volume of surface water that should be delivered and used, and then when you add up the meter groundwater and the EBID surface water amount, it gives you a total. That's a year-to-date total based on those entries. And we also have, just below that, a percent total used, and then at the very bottom, the amount of groundwater remaining for -- for whichever water right we're looking at.

- Q. And you track this for every single combined water right user, surface water/groundwater combined right?
 - A. That's correct.

- Q. And here on this example, we do see a notation of percent of total diverted, and it says over 75 percent diverted called out in red. Could you explain this notification on here?
- A. Yes. So we built in some of these flags in the system just to kind of help people understand or identify when they're getting close to their limit. So when somebody approaches -- gets to 75 percent or

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exceeds it, that flag will pop up, and you can see here how this percent of total diverted at this point in time is 100.16 percent.

- Q. And so then just to make sure it's clear then, the allowable groundwater diversion, how much on an acre-foot per basis have they over diverted for this water right?
- A. Here, they've exceeded their total by 2.70 acre-feet.
- Q. And then what do you do, whether it's 2 acre-feet or more, what do you do for over diversions?
- Α. So we generally look at this data, we pull it out of the database, and we'll put it into spreadsheet form, and then we'll look at each of these and determine if -- if the accounting is -- is an accurate reflection of everything that we have in the file, and -- and what's of particular concern, especially with this water right owner, is if they've applied for and provided the evidence for notice of intent, then we will have to go in and adjust the numbers to reflect that 5.5 acre-feet per acre allowance because what you see here on the summary, this is all -- these calculations are based all on 4.5, until we get a final order from the Court, then those numbers will be So if there's notices of intent on file for adiusted.

1 the participating water rights, then we have to adjust 2 for that provided they had evidence. 3 If, in fact, though, there is an over 0. 4 diversion and you confirm there's an over diversion, 5 what do you do next? 6 Then we'll notify the owner that they've Α. 7 exceeded their allowable limit, and it requires that 8 they come in and meet with a member of my staff or 9 myself to discuss the options for repayment of that 10 water. 11 0. Are there written enforcement procedures for 12 over diversions? 13 Yes. We have an expedited enforcement Α. 14 procedure. 15 0. If we could pull up New Mexico Demonstrative 16 Exhibit 59, Page 17, please. And are those procedures 17 shown here on this demonstrative exhibit? 18 Α. Yes. 19 If we could pull up the separate exhibit, New 20 Mexico 2084, please. So are these the expedited 21 hearing procedures that you use for over diversions? 22 Yes, they are. Α. 23 And this is an official record for the State 0. 24 Engineer's Office? 25 It is. Α.

1	Q. And do you implement these enforcement
2	procedures as part of your job duties?
3	A. Yes.
4	MS. THOMPSON: I'll move to admit New
5	Mexico Exhibit 2084, please.
6	MR. GOLDSBERRY: No objection.
7	MR. DUBOIS: Same objection, but I'm
8	assuming you're going to allow that so
9	JUDGE MELLOY: I'll admit 2084.
10	Q. (BY MS. THOMPSON) Mr. Serrano, why are these
11	expedited procedures?
12	A. These are expedited so that way we can try to
13	address all of these over diversions within a timely
14	fashion.
15	Q. And what is it what do you mean by how
16	do you expedite it?
17	A. We expedite it through our our hearing
18	unit, the State Engineer's hearing unit. So we have a
19	system in place where we can create a very fast docket
20	where all of these issues can be heard in front of a
21	hearing examiner if they reach that point.
22	Q. If we can flip back then to New Mexico
23	Demonstrative Exhibit 59, Slide 18, please. And did
24	you create this demonstrative?
25	A. I did, yes.

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Q. And these are enforcement steps similar to what we saw before for the metering enforcement?

A. Yes, they are.

Q. But they're not the exact same; is that right?

- A. They're not the exact same. They're similar.
- Q. Okay. Would you just briefly walk us through the steps then for enforcement that occurs for the LRG if that's an over diversion?

Α. So as you can see here in the demonstrative, Step 1, of course, is notice to the -- notice of violation, and that notice always includes a detailed report. Excuse me. There's some sirens going on The notice always includes a detailed report of the diversions for the years specifying that data that we're looking at, and it has a 30-day requirement in which to meet with a member of the water master staff to go over the -- the options for repayment. generally have a good amount of compliance. will comply at that point. If not, then we move onto Step 2, which is a notice of violation from the administrative litigation unit. That's a more detailed notice, and it -- it also has an accompanying summary of all the diversions for that particular year. They're given an additional 30 days in which to

comply. At this step, again, we generally have pretty good response when that -- the administrative litigation unit notice goes out. At that point, a repayment plan could be renegotiated. That fully resolves that over diversion, and then we'll track that plan throughout the year. If notice is not achieved, we'll move onto Step 3, which is, you know, consistent with the other enforcement process, we'll issue a compliance order, but along with that compliance order, it'll have an expedited hearing packet with a date for hearing and a request if the water right owner so chooses to pursue that. And then after that, I'd combine Steps 4, 5, 6, and 7 here. You can see an owner could choose to request a hearing. We'll prepare for that hearing. We'll have the hearing, and then we'll have some recommendations from the hearing examiner as to what the appropriate remedy should be and then if compliance is still not achieved moving on, the State Engineer can petition a local district court -- state district court for enforcement of the compliance order and adherence to the hearing examiner's recommendation.

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Q. Thank you. And on the Step 1 that you mention here, notice of violation by water master, those are letters sent out by you; is that right?

1	A. Yes.
2	Q. Okay. If we could look at New Mexico Exhibit
3	485, please. And I think this exhibit has many pages.
4	Have you seen this exhibit before?
5	MS. THOMPSON: If you flip through, Ms.
6	Ferguson, just a couple pages, you can see Mr. Serrano
7	that it appears to be the same letter, just different
8	people from 2017.
9	Q. (BY MS. THOMPSON) Does this exhibit is it
10	familiar to you, Mr. Serrano?
11	A. Yes, it is. So it's the same form letter and
12	then we run a mail merge, and it incorporates all the
13	addresses for the different owners.
14	Q. But this is an example of that Step 1, the
15	notice to the water users from the water master; is
16	that correct?
17	A. Yes, ma'am.
18	Q. And then do you prepare these letters?
19	A. I do.
20	Q. And then are they part of your official
21	record?
22	A. Yes.
23	MS. THOMPSON: I'm going to move to
24	admit New Mexico Exhibit 485, please.
25	MR. GOLDSBERRY: No objection.

1 MR. DUBOIS: Objection on relevance, 2 goes to the remedies. 3 JUDGE MELLOY: Can we just -- I'll 4 admit, but can we move along? I don't think we need 5 this level of minutia on this issue, but -- I mean, 6 it's your case, but can we move along a little bit? 7 MS. THOMPSON: Sure. Can I respond, 8 though? 9 JUDGE MELLOY: Go ahead. 10 MS. THOMPSON: We're just wanting to 11 make sure because original actions have historically 12 always addressed administration and how much 13 groundwater is being pumped in the LRG, where it's 14 going, how it gets limited and then of course --15 JUDGE MELLOY: This has nothing to do 16 with water that's pumped or where it's going. 17 has to do with the reporting. All the reporting in 18 the world doesn't do any good if you're pumping too 19 much water. 20 So, Mr. Serrano, is just MS. THOMPSON: 21 explaining through his testimony just the 22 administration in the LRG following up from 23 Mr. Longworth from yesterday of exactly what occurs. 24 Okay. Go ahead. JUDGE MELLOY: 25 MS. THOMPSON: But we certainly will

1 move along. 2 (BY MS. THOMPSON) So then onto New Mexico Q. 3 Exhibit 883. Do you track over diversions in the LRG? 4 Α. Yes, we do. 5 All right. Is this a table from your 0. 6 declaration that you summarized your tracking of over 7 diversions? 8 Yes, it is. Α. 9 And you prepared this table? Q. 10 Α. Yes. 11 And then this is an official record from the Q. New Mexico State Engineer's Office? 12 13 Α. Yes, it is. 14 MS. THOMPSON: I'll move to admit New 15 Mexico 883, please. 16 MR. GOLDSBERRY: No objection. 17 JUDGE MELLOY: Mr. Dubois, do you have 18 an objection? 19 MR. GOLDSBERRY: You're on mute. 20 MR. DUBOIS: Sorry about that. 21 objection, Your Honor, but I understand where we are. 22 JUDGE MELLOY: 883 is admitted. 23 (BY MS. THOMPSON) Mr. Serrano, will you just Q. 24 explain for us then what this table is showing as far 25 as the number of over diversions you're recording here

and then what you do about those over diversions?

A. What this table is showing is number of over diversion in terms of files that are over diverted and the -- the associated year and then an accompanying amount of acre-feet for all of those water right files combined. And what we do is at the end of the year when we do our accounting, we identify, of course, the over diversions. We send out those notices and then we -- we work with the water right owners to come up with an acceptable plan for repayment.

- Q. And you refer in your annual report to reconciliation process. What's that process?
- A. Well, we try to reconcile the accounts to make sure that all of that over diverted water is -- is completely repaid in the year immediately following in which the over diversion occurred.
- Q. And then if we could look at New Mexico

 Demonstrative Exhibit 59, Slide 20, please. Do you
 recognize this slide?
- A. Yes.

- Q. And is this an example of one of your reconciliation processes?
- A. This is a summary of our -- our reconciliation process, and we incorporate this into our annual report every year.

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0. Would you describe what this graph is showing?

- Just briefly, this graph is -- is a Α. graphical representation of the data we just saw from the previous table, but here it's for a particular year, 2017. We have number of water right files identified in the red plot line -- excuse me -- in the blue plot line and the amount of water identified associated with those over diversions in red, and you can see as we progress through the year, there's a callout there for when we send out the initial notice that was done in April, it looks like there that year, and then as we move through time, we're achieving compliance, and those numbers are continually being reduced all the way to the point here in 2017 where we had every account reconciled.
- And one of your reconciliation options you 0. mentioned is a repayment plan. Would you describe what that is?
- The repayment plan, it's a one-page form that Α. we developed. We tried to keep it as simple as possible for water right owners who are in a situation of over diversion and they're required to fill out that plan and identify the option for repayment and it must fully satisfy the over diversion.

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Q. If we could just flip to the next slide, just one other example from 2020. The same reconciliation process is occurring in 2020, correct?

A. That's correct.

- Q. And you're showing here that you -- you didn't get to zero here, but what do you get down to for the reconciliation on this year?
- A. For 2020, we got down to 56 files remaining and the amount of water of 715 acre-feet. This was a pretty difficult year given the restrictions we had with regards to meeting with people and trying to get things done, and then also working from -- remotely for a good portion of the year, so you can see here the progress isn't what I would have liked to have seen for that year, but we're working on it.
- Q. Okay. So you strictly enforce those over diversions and then you mention the repayment plan. Let's look at New Mexico Exhibit 786, please, which has been admitted. Would you describe what this form is?
- A. This is an example of our one-page repayment plan.
- Q. Then what are the options for repayment there under supply of groundwater for repayment? You see the four listed items there with the callout boxes.

A. Yes. These are primary options for repayment.

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- Q. Sorry. Go down to the middle part. Yeah, there you go. Thank you.
- So the first -- the first option is a Α. reduction in diversion of administrable water right or another groundwater water right belonging to that same owner in a subsequent year. So if they over divert one acre-foot, they need to under divert one acre-feet in the following year. A change place of use or point of diversion application that's similar to the water right change application we referred to earlier, an application of that type might be sufficient to resolve the over diversion. A water use lease authorized by the state engineer, again, that's via the application process where they could -- an owner could go out and lease land with an associated groundwater right and use that water as a repayment option. Number four here is the same ownership management plan agreement. If a farmer that over diverted was only exercising his water rights in accordance with the ownership management plan, then we'll allow him to go ahead and file that, and we'll adjust the accounting to reflect the OWMAN, and then there's an option here for other just to allow for,

you know, if a water right owner has some other sort of repayment option or combination thereof, then we'll identify it here.

- Q. And do you investigate every over diversion?
- A. Yes.

MS. THOMPSON: You can take that down.

- Q. (BY MS. THOMPSON) We're going to switch gears to the OWMAN program that you may have heard testimony about before. Mr. Longworth testified about this program as originating from the 101 order. Are you familiar with the OWMAN program?
 - A. Yes, I am.
- Q. And do you administer parts of the OWMAN program?
 - A. Yes, I do.
- Q. Would you describe in your own words what the OWMAN program is?
- A. In my mind, the OWMAN program is a current administrative reflection of historical irrigation practices whereby an owner that either owns water rights or manages water rights in and amongst farms that -- that they own or manage, it gives them the flexibility to use that water as they see fit. In essence, they can use a little bit more water on one parcel if they use a little bit less on the other, and

1 then we average out that use across the total amount 2 of water-righted acres. 3 If we could look at New Mexico Exhibit 486, 0. 4 please. Are you familiar with this summary document 5 for OWMAN? 6 Α. Yes, I am. 7 And did you help prepare this document? Q. 8 I did. Α. 9 0. Okay. 10

- This has been admitted, but looking at the second paragraph, does this describe the OWMAN program and the benefit or flexibility to the farmers?
 - It does. Α.

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- And you mentioned earlier, there's -- you 0. know, reflects the historical use or operation of the What did you mean by that?
- Α. Well, it's my understanding that -- that sharing the water, you know, in this -- in this fashion has been occurring in the Lower Rio Grande for quite some time, and it's just -- it was memorialized in the 101 agreement and then we were required to create an administrative process to track that.
- And if we look at the second page of this Q. document at the top, there's been some discussion about notice and what notice has to be submitted to the State Engineer's Office. Would you describe what

this paragraph is listing out here?

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So as part of the 101 settlement Yes. agreement and final order, there's some language in there that required that these agreements could be implemented provided that there's agreed-upon notice to the state engineer. So we had to come up with an appropriate form that would identify all the necessary elements to satisfy that notice requirement. So these are those elements. Number one, they have to submit their OSE file numbers for each farm that they're proposing. They have to identify an amount of acreage they're proposing to enroll. They have to identify whether or not they filed their notice of intent in evidence to prove that higher FDR, again, per the 101 They have to name and date each water right, and then they have to provide some general maps indicating where this land was located.

Q. If there's common management, do they also have to submit written agreements?

- A. They do. Generally we'll get landowner agreements, rental agreements, or any other type of agreement they might have.
- Q. Is there a deadline to provide notice to District 4?
 - A. No. We try to get these all entered, get

1 them all submitted and entered before April 30th, and 2 that's just simply so that way we have all this 3 accounting in place in the WATERS database before the 4 start of the irrigation season. 5 And then who reviews the OWMAN notices when 0. 6 it gets submitted to District 4? 7 Α. When they get submitted, they go through my 8 office, and I review all of them. 9 Okay. And under the OWMAN program, are water 0. 10 rights changed in any way? 11 They're not changed, no. It's simply Α. 12 accounting. 13 And have you investigated at all whether the 0. 14 OWMAN program has actually increased total irrigation 15 water use in the basin? 16 Α. I have not, no. 17 Do you understand that that overall use of 0. 18 water versus historical use will be addressed by the 19 New Mexico experts in the spring? 20 That's my understanding, yes. Α. 21 If we could look at New Mexico Demonstrative 0. 22 Exhibit 59 again, Page 22, please. On this 23 demonstrative, would you explain what's shown there on 24 the right-hand side related to the OWMAN program?

So in -- in the demonstrative, the slide that

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we have up here on the right-hand side, this is the form, this is that agreed-upon notice. This is our standard form, so any water right owner who wants to invoke these provisions of the settlement will use this form, and they'll provide all that information, that necessary information, that we discussed.

- Q. And you said that they also -- do they have to submit maps identifying the specific parcels that they're using in the OWMAN?
- A. They do. And, you know, they don't always have access to those maps so they can come in and work with either my staff or the district staff to pull together some maps.
- Q. And then on the left-hand side is the water rights summary. It's the same one we looked at earlier when you were describing the combined surface water/groundwater, the Calhoun summary here. A little bit blurry so I'm going to ask Ms. Ferguson to pull up New Mexico Demonstrative 58 separately. Would you just describe how this is reflecting these particular water rights as combined in the OWMAN program?
- A. So as one of the processes with -- with this OWMAN procedure is we entered all these into the WATERS database as an independent transaction so that's the only way that we can facilitate appropriate

accounting is we had to use the database. So all the water rights that are being proposed will be moved from their original accounts into this OWMAN farm account, which you see here and any time there's a change to an OWMAN account, those transactions will be updated accordingly. You can see here in this callout starting at the bottom that this first OWMAN was put into place in 2016. It was amended in July of '16, and then, again, in September, and those -- those appear to be adding acreage as -- as the season goes on, and then it was amended again in 2019 and then amended again in February of 2020. So we tracked this -- these changes in this transaction over time in order to effectuate the accounting.

- Q. So do you update the OWMAN program information on the database every year?
 - A. Every year and as we receive it, yes.
- Q. Do you ever review an OWMAN request and have to deny it?
 - A. Yes, we do.

- Q. And why would you have to deny one?
- A. Well, there's a couple of different reasons. First and foremost, the water rights that are being proposed, they have to be valid existing water rights and then they have to be in good standing, meaning

that they're in compliance with all of their necessary permit conditions. Second, they have -- it has to be a water right for the ownership this property reflected so the water right has to match the land ownership, and if that isn't the case, then we'll deny participation for that reason and then we've also had instances where someone will come in and they'll try to include a surface water only parcel to be included as part of OWMAN. In those instances, we'll also deny that?

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- Q. Okay. So we're going to move on from OWMAN then onto what I think you referred to earlier as the river pumpers, and on this topic, are you aware that Texas alleged in this case in its complaint that New Mexico has increasingly allowed the diversion of surface water and repeatedly referred to those surface water diversions as illegal surface water diversions?
 - A. Yes. I'm aware of that fact.
 - Q. Is that because you reviewed the complaint?
- A. If memory serves me correct, it was in the original complaint and also the -- I believe I saw it in the motion for summary judgment.
- Q. And to your knowledge as the water master, has Texas or Reclamation ever notified your office or New Mexico of any illegal surface water diversions?

1 Yes, they have. Α. 2 And when was that? 0. 3 That would have been back in 2012, when I Α. 4 first started as water master. 5 0. And we'll go through some details of that, 6 but is that the only time since you've been water 7 master that you know of? 8 Α. Yes. 9 And did you investigate the allegations of 0. 10 illegal surface water diversions? 11 I -- I did in my capacity as the water master Α. 12 and then the office did kind of as a collective -- the 13 Lower Rio Grande adjudication also did some research 14 to address that issue. 15 Let's look at U.S. Exhibit 229, please. This 16 is an e-mail from Mr. Bert Cortez to Mr. Rolf 17 Schmidt-Petersen. Have you seen this e-mail, even 18 though you weren't copied on it? Did you see this 19 e-mail? 20 Α. I have seen it, yes. 21 Did you discuss the e-mail with other state 0. 22 engineer staff? 23 Α. Yes. 2.4 Q. And what's your recollection about what 25 Mr. Cortez was alerting Mr. Schmidt-Petersen to in

1	this e-mail?
2	A. That there were several sites identified by
3	by Reclamation as sites of concern and that
4	potentially would be diverting illegally diverting
5	Project water.
6	Q. And did you were you involved in the
7	specific investigation raised by Bureau of Reclamation
8	in this e-mail?
9	A. Yes. As I mentioned, that was one component
10	of a larger effort.
11	Q. To your knowledge, was there anything more
12	formal sent from Bureau of Reclamation on this issue
13	that you know about?
14	A. I can't recall more formal.
15	Q. But to your knowledge, this is the only
16	notification the Bureau of Reclamation provided on
17	this issue?
18	A. Yes, that's correct.
19	MS. THOMPSON: I'm going to move to
20	admit U.S. Exhibit 229, please.
21	MR. GOLDSBERRY: Objection
22	MR. DUBOIS: Objection that it goes to
23	the remedies issues, but otherwise
24	JUDGE MELLOY: I'll admit 229.
25	Q. (BY MS. THOMPSON) If we could also look at

1 New Mexico Exhibit 720, please. Excuse me. Sorry. 2 Let's skip past that. New Mexico 223, please. Oops. 3 Sorry. I missed a 2 there. Thank you. 4 Mr. Serrano, have you seen this letter from 5 Mr. Gordon, Texas commissioner, to the New Mexico 6 Compact commissioner. 7 I have seen this, yes. 8 How did you happen to review this letter; do Q. 9 you recall? 10 After this letter was sent to New Mexico Α. 11 Compact Commissioner, it was very shortly thereafter 12 forwarded down to the district office, and it was 13 brought to my attention. 14 Did you discuss it with other state engineer 0. 15 officials? 16 Α. Yes. 17 And then were you also involved in the 0. 18 investigation of the illegal diversions raised in this 19 letter? 20 Α. Yes. 21 To your understanding, is it the same surface 0. 22 water diversions that are complained about in this 23 letter that were also complained about on the e-mail 24 from Mr. Cortez?

That was my understanding. It's not two

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1 distinct events. It was one and the same. 2 And then what's your recollection about what 3 this letter is raising as a possible illegal 4 diversion? 5 Α. That there was -- there was river pumpers or 6 surface diversions intercepting Project water. 7 MS. THOMPSON: I'll move to admit New 8 Mexico 2223, please. 9 MR. GOLDSBERRY: No objection. 10 JUDGE MELLOY: 2223 is admitted. 11 Q. (BY MS. THOMPSON) Mr. Serrano, will you then 12 please describe what investigations you did related to 13 these allegations? 14 So from my perspective, what I worked on is 15 we went out and conducted field investigation of each 16 of the sites identified by the BOR from Mr. Cortez's 17 e-mail. We looked at those specific locations and 18 then we also kind of expanded our -- our view and 19 looked at the entire stretch of the river to identify 20 potential illegal diversions from Caballo Dam all the 21 way to the New Mexico/Texas state line. 22 And did you document your investigation? Q. 23 Α. Yes, I did. 2.4 MS. THOMPSON: If we could pull up New 25 Mexico Exhibit 788, please.

1	Q. (BY MS. THOMPSON) Do you recognize this
2	memorandum?
3	A. Yes.
4	Q. And what is it?
5	A. This is my memo summarizing our activities
6	with regard to that investigation, the river pump
7	investigation.
8	Q. And so you prepared this memorandum?
9	A. I did.
LO	Q. And is this also an official record of the
L1	State Engineer's Office?
L2	A. It is.
L3	MS. THOMPSON: I'll move to admit New
L4	Mexico Exhibit 788, please.
L5	MR. GOLDSBERRY: No objection.
L6	JUDGE MELLOY: 788 is admitted.
L7	Q. (BY MS. THOMPSON) And what's the date of this
L8	memorandum?
L9	A. That's June 26th of 2013.
20	Q. What does it state on the cover page as the
21	reason for, excuse me, the field investigation?
22	A. To document all active and inactive river
23	pumps slash diversions within the Lower Rio Grande
24	Water Master District and to follow up on the 2012
25	field investigation conducted by the Office of the

State Engineer in response to complaints received by the Bureau of Reclamation and the International Boundary and Water Commission.

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- Q. How many sites did you end up investigating as possible surface water diversions? And if you need us to flip to the end to show you the total numbers, we can do that.
- A. If you could, if my memory serves me correct, it was 24.
- Q. Turn to Page 103, please. This is the last file in this memorandum. Does that refresh your recollection?
 - A. It is. 26 sites in total.
- Q. Okay. And you had mentioned earlier that you expanded your scope and looked up and down the river. Is there anything else that you'd like to describe as far as your methodology of what you did for your investigation?
- A. Just -- just that we tried to be as comprehensive as possible. We tried to collect GPS data and several pictures associated with each site and then identify whether or not they were legally entitled to divert water from the river or if it was, in fact, an illegal point of diversion and then actions we took if they were, in fact, illegal.

- Q. Okay. We're not going to hit on every single of the 26 sites, but I just want to look at a couple as an example to understand what you did and what your investigation was so if we could look at Page 3 to start, I just wanted to note here that some of these sites, the basin is not listed as the LRG basin. This one, for instance, is the Hot Springs Basin. Do you see that?
 - A. res.
- Q. Okay. And so you investigated beyond just the LRG, including the Hot Springs, but does this relate to in any way your LRG illegal surface water diversions?
- A. It does not. You know, if we identify illegal diversions in this basin, it would be under that category, the Hot Springs Basin.
- Q. Okay. I just wanted to mention, there's a couple of those, and we won't go over to those, but we'll go on to Page 7 then. Here's one in the Lower Rio Grande LRG Basin. Do you remember this site?
 - A. Yes.

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- Q. And what was the irrigated acreage for this site listed here?
 - A. You can see here, it's 0.54 acres.
 - Q. And through this documentation, was there

evidence of any illegal use at all?

A. No, not at this location. We have -- we had a surface water declaration on file and the diversion point was actually metered and they were submitting meter records to us.

- Q. Okay. If we go on to Page 15, this is called the Faykus River Pump here. Do you remember this site?
 - A. Yes, I do.

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- Q. This is listed here as irrigated acreage of 14.14. What do you recall about this particular site?
- A. At this particular site, I do recall that we had some records on file, but it wasn't clear that this was a valid point of diversion, so we -- we took actions to get this activity stopped.
- Q. We'll go into a little bit of detail about the particular actions you took, but just for now, can you summarize what you mean by you took actions?
- A. We -- we initiated our enforcement process that we described earlier.
- Q. Okay. And then on to Page 35, another site that you investigated, this is the Bonita Lateral site. This also has an irrigated acreage listed here of 200 acre-feet. What did your -- excuse me -- acres. Excuse me. What did your investigation

1 conclude on the Bonita Lateral site? 2 That the Bonita Lateral site is a recognized 3 pre-project water right, and they can divert water to 4 irrigate approximately 200 acres. 5 So was it you-all's conclusion then that this 0. 6 one was not an illegal surface water diversion? 7 Α. That's correct. 8 And then on to Page 39, is another example. 0. 9 This is the Duran Pumping Site. Do you remember this 10 site? 11 Yes, I do. Α. 12 And what do you recall about this site? Q. 13 Α.

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- This location is an additional or alternative point of diversion of EBID Project water. So these lands cannot be served through their traditional infrastructure so there's a river pump or lift station where they can pull their EBID allotment directly out of the river.
 - Q. And that's with the authorization of EBID?
- They have to be current on their Α. assessments, and they have to have an active order in before they can utilize this facility.
- And was it your determination -- your 0. office's determination this was not an illegal surface water diversion then?

1 That's correct. Α. 2 And if we look at two more examples here, 0. 3 Page 43, please. The Holguin River Pump, do you 4 remember this site? 5 Α. Yes, I do. Could you explain your investigation of this 6 0. 7 site? 8 At this location, our records indicated that Α. 9 it's a valid pre-project water right authorized to 10 irrigate up to 90 acres with surface water diverted 11 directly out of the Rio Grande. 12 Q. So as another pre-project right, did you 13 determine this was not an illegal surface water 14 diversion? 15 Α. That's correct. 16 Q. And then on to the last page, Page 51, the 17 last example, I should clarify, this is the Dulin 18 river Pump. Do you remember this site? 19 Α. I do, yes. 20 What do you remember about this site? 0. 21 Similar to the Duran location, this is a 22 additional or alternative point of diversion for EBID 23 project surface water. These lands can't be served by

any of the canals in the system -- in the area so

they're -- they're allowed to pump water or lift it

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1 out of the river to irrigate these lands. Then if we flip over then -- excuse me. 2 3 more example. I apologize. Page 59. The Thurston 4 Rio Grande River Pump. Again, do you remember this 5 site? 6

Yes, I do. Α.

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- Q. What did you determine through your investigation?
- Α. Similar to Duran and Dulin, this is also a location for delivery of EBID Project water.
- 0. I should mention that after each of these summary pages, if you just scroll to the next page, your investigation included pictures documenting your investigation, correct, and then on the next page, maps for each site; is that correct?
- Α. That's correct. And the maps include an X/Y coordinate for each diversion point.
- Did you do that for every one of the 26 Q. different sites you investigated?
 - Yes, we did. Α.
- And then on the very end here, Page 103, that 0. No. 26 site, this one is listed here as the current property owner of the IBWC. What do you recall about this site?
 - This is the location that's a little Α.

different. It's kind of migratory, and it's a location that -- it's a pump that the International Boundary and Water Commission will dip into the river at different locations throughout their canalization project to facilitate operation and maintenance activities.

- Q. And did you determine whether or not this was an illegal surface water diversion?
- A. It -- it's my understanding that it -- it is not because there's some agreements in place between the IBWC and the districts to allow for that mutually beneficial maintenance.
- Q. Okay. And looking back at our Demonstrative Exhibit 59, Page 23, did you prepare the summary of the categories of the different river pumpers you investigated?
 - A. I did, yes.

- Q. Would you just explain then on the left side those three categories you put them into?
- A. So there's -- there's three basic categories. We have recognized pre-Project points of diversion. Those are rights on file and recognized by the State Engineer's Office. The second is points of diversion for EBID Project water. You know, we discussed those three examples. And then the third is illegal uses.

1 And what did you end up determining then for Q. 2 the group of the pre-Project rights? 3 That they have valid existing water rights on Α. 4 file with the state engineer, and we would -- and we 5 require that those locations be metered and they 6 report their usage to local office. 7 And then the group that fell in the second 8 category, the points of diversion for EBID water 9 users? 10 We found that those fall under the Α. 11 jurisdiction of the Elephant Butte Irrigation 12 District, and they're valid points of diversion for 13 delivery of Project water. 14 And then on the last category then, what did 15 you end up doing with that final subcategory that you 16 determined were illegal surface water diverters? 17 That final subcategory, we -- we followed our Α. 18 traditional enforcement process. We issued notice and 19 pursued all of those until we had a satisfactory 20 result. 21 And then did you continue to document your Q. 22 investigations? 23 Α. Yes. 24 Do you recall about how many fell into that Q. 25 third category?

1	A. I can't recall the exact amount, but, you
2	know, five, somewhere on the order of five.
3	Q. And if we look at New Mexico Exhibit 626,
4	please. Did you prepare this memorandum?
5	A. Yes, I did.
6	Q. And what is this memorandum summarizing?
7	Excuse me. Let me back up here.
8	Would you state the date of this memorandum?
9	A. This was December 18th of 2019.
LO	Q. What was the purpose for this memorandum?
L1	A. As a follow-up to the previous report and
L2	memorandum, we just wanted to show the current status
L3	as of 2019 of each of these locations.
L4	Q. And is this also an official record of the
L5	State Engineer's Office?
L6	A. Yes, it is.
L7	MS. THOMPSON: Move to admit New Mexico
L8	626, please.
L9	MR. GOLDSBERRY: No objection.
20	MR. DUBOIS: I'll raise the same
21	objection as far as the relevance, and it's also
22	cumulative.
23	JUDGE MELLOY: I'll admit 626.
24	Q. (BY MS. THOMPSON) Mr. Serrano, can you
25	summarize for us what you understand the current

1 status is of the 26 sites that you looked at? 2 At -- as of the date of this memorandum, they 3 were -- they were all in compliance. 4 0. And did District 4 have to take any of those 5 particular water owners through litigation to enforce 6 against the diversion of the water? 7 Α. There was one that -- that we had to take 8 through the entire process, and that would have been 9 the Faykus example. 10 If we could pull up New Mexico Exhibit 608, 0. 11 Do you recognize this document? please. 12 Yes, I do. Α. 13 0. And what is it? 14 This is a notice from the administrative Α. 15 litigation unit to Mr. Faykus advising him of his 16 violation and notifying him that if he did not comply, 17 the compliance order would become final, and we -- we 18 could pursue district court enforcement. 19 Q. And so is this just one example of District 4 20 enforcing -- investigating and enforcing against these 21 alleged illegal surface water diverters? 22 Α. Yes, it is. 23 And on Page 2, the compliance order, have you 0. 24 seen this compliance order before?

Yes, I have.

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And so you're familiar with this letter in 1 0. 2 this compliance order, correct? 3 Α. Correct. And these are also official records of the 4 0. 5 State Engineer's Office? 6 Α. Yes. 7 MS. THOMPSON: Move to admit New Mexico 8 0608, please. 9 MR. GOLDSBERRY: Objection; relevance; 10 cumulative. 11 JUDGE MELLOY: I'll admit 608. G_{Ω} 12 ahead. 13 (BY MS. THOMPSON) What ultimately happened on 0. 14 this last enforcement action for the Faykus case? 15 Ultimately, we had a determination, actually 16 out of the adjudication court, as to the extent of the 17 water right, and basically that said that there was no 18 surface water right at that location. We took that 19 and we petitioned district court for enforcement. 20 received an injunction from local district court. 21 Mr. Faykus did not comply with that injunction, and 22 then we turned around, and we petitioned the court for 23 -- to hold Mr. Faykus in contempt. They -- the court 24 agreed, and they held him in contempt and required 25 that all of that equipment be removed from the banks

1 of the river and they give him a specific timeline in 2 which to do that, after which we could go on site and 3 remove the equipment ourselves. 4 0. Then did you do a final inspection yourself 5 at the site? 6 Yes, we did. We went out, you know, within Α. 7 that designated time frame from the district court 8 order, accompanied by New Mexico State Police, to make 9 sure that, you know, that all of the equipment had 10 been removed. 11 If we could pull up New Mexico 0876, please. Q. 12 Do you recognize this inspection report? 13 Α. Yes, I do. 14 And did you prepare it? 0. 15 Α. Yes, I did. 16 Q. Is this the final inspection report you just 17 mentioned as for the Faykus River Pump? 18 Α. That's correct. 19 Is this also an official record of the State Q. 20 Engineer's Office? 21 Α. Yes, it is. 22 If we turn to the second page, is this Q. 23 document your investigation, and then over to the 24 third page, and removal of this particular surface

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water diverter?

1 That's correct. Here, we're documenting Α. 2 through the report and then these pictures that the 3 equipment had been removed and taken off the site. 4 MS. THOMPSON: Move to admit New Mexico 5 0876, please. 6 MR. GOLDSBERRY: No objection. 7 JUDGE MELLOY: 0876 is admitted. 8 (BY MS. THOMPSON) So, Mr. Serrano, to your 0. 9 knowledge, have all the surface water diverter 10 concerns raised in 2012 by Bureau of Reclamation and 11 Texas been addressed and resolved now after Faykus? 12 Α. We've certainly made efforts to address and 13 resolve all those issues, and I think from -- from our 14 perspective, we have. I'm not sure if the other 15 parties would agree. 16 Q. Have they raised any additional concerns 17 since 2012? 18 Not that I'm aware of. Α. 19 Have they raised any other -- provided any Q. 20 other notice of any other illegal use in the LRG? 21 Not that I'm aware of. Α. 22 One last topic I just want to go over with Q. 23 you are your annual reports, and I believe these are all been admitted. As part of your duties, would you 24 25 just describe what you have to do for preparing your

annual report? A. Well, the activities

A. Well, that's -- that's a culmination of all the activities that we've discussed here today. We have to do the accounting, the end of the year accounting, we have to reconcile accounts, categorize all the water use and quantify it and then put it into a format that it's easily representable in the form of a report.

- Q. And what was the first report that you prepared?
- A. I did a summary in 2012 and then a full report in 2013.
- Q. Okay. So for 2013 to present, I'll just note for the record that those are New Mexico Exhibits 757, 428, 793, 429, 785, 807, 927, and 929. When do you prepare these annual reports?
- A. We prepare them in the late winter and early spring immediately following irrigation season.
 - Q. And then who do you submit the reports to?
- A. I submit those directly to the State Engineer.
- Q. Are they also provided on the State Engineer's Website?
- A. Yes. After they're reviewed and approved by the State Engineer, they'll be added to the Website.

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Just as one example, we're going to pull up 0. New Mexico 757, the first one from 2013, please. Mr. Serrano, if you have a hard copy there in front of you, it's not particularly long, but I'd ask you if you could, just since it's not very long, flip through and state the page number at the bottom and just give us a high-level overview of what you include every single year in your annual reports. Just the categories is what I'm asking for.

- It looks like the exhibit book is missing Α. 757.
- Q. It's probably in the second, the separate book. There's two there in front of you.
 - Α. Okay. Here it is.
 - 0. Great.

Α. So generally, you know, the content is the same within all of our reports. We do try to, as we move -- progress through the years, we try to get better and better and include more information that's relevant, but generally, there's a table of contents. On Page 3, there's an introduction, a description of our duties on Page 4. We'll like to include that version of the map that we talked about earlier today on Page 5. On Page 6, you know, we'll include some general information about the duties and -- and the

work that we conduct, then we'll describe some of the meetings that were had. On Page 7, we'll detail our enforcement and compliance activities, as well as other objectives to include proactive steps for achieving meter readings that we described earlier today. Moving on to Page 8, there's a description of implementation of settlement terms, and this is specifically talking to how we go about accounting for the 4.5 versus 5.5, as well as some of the ownership management provisions, and then on Page 9, we'll have a detailed report of the different water uses within the district, and we try to do at least a three-year comparison to show the change over a three-year period.

- Q. And so in this report, you list out the orders and -- excuse me -- administrative orders and your duties, and we covered all of that in your testimony today, correct?
- A. That's correct.
 - Q. And then you also include the water district map that we covered in your testimony today, correct?
 - A. Yes.

Q. And your enforcement actions each year, while they're specific to your January report, but we covered that in your testimony today, as well, right?

1 Yes, we did. Α. 2 And then the metering requirements that you 3 cover in your annual report, we covered that in your 4 testimony? 5 Α. Yes. 6 And then the Settlement Order 101 that you 0. 7 mentioned, that's covered in your annual report, and 8 we covered that in your testimony today, correct? 9 Α. That's correct. 10 0. And then same with the OWMAN provisions, you 11 give a summary of that every year in your annual 12 report; is that correct? 13 Α. That's correct. 14 And then lastly, in your annual report, I 0. 15 think you also, in every single annual report, you 16 include a water use summary that we detailed earlier 17 in your testimony; is that right? 18 Α. That's right. We try to break out those uses 19 and describe the amount of water in each of those 20 categories. 21 0. And then in your annual report, do you also 22 look at groundwater levels each year? 23 We started looking at groundwater-level Α.

Okay. Let's look at just a couple of these

observations, if memory serves me correctly, in 2016.

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categories in the Demonstrative Exhibit 59, please, Page 25. In your demonstrative exhibit here you pulled out this slide from your annual report from 2020. Would you just describe what you're showing there in your annual report on the right-hand side?

So this is a graphic that we've been

incorporating from some time, just to -- just to graphically represent how much irrigation groundwater withdrawals are occurring within the district as compared to surface water allotment available every So you can see on the black line, that's year. groundwater withdrawals that we derive from meter data, and then in the blue line, you see that's EBID's surface water allotment, and the way I calculate that number is whatever the final allotment is for the irrigation season every year, you multiply that by 90,640 acres, which I understand is the authorized acres for EBID at this point in time of the assessed acres to get a number of total acre-feet available for delivery and use within the system. And you can just see how the -- those plots trend over time as the years go on, and then there's a red number in between each of those years, and that's just the difference between groundwater withdrawal and surface water available.

- Q. Okay. Is there a correlation then between groundwater and surface water use? I mean, as one goes up, what happens to the other?
- A. Absolutely. I think, you know, we've heard that through testimony in this trial that as more surface water becomes available, less groundwater -- the need for supplemental groundwater pumping diminishes.
- Q. And if we could go on to the next slide then.

 And what is this slide showing that you pulled out for your demonstrative here for groundwater-level data?
- A. Again, in 2016, we started looking at groundwater-level data that's available within the district. That -- that data comes from the -- the network of groundwater monitoring wells that -- that EBID operates, as I understand it, but they were drilled as part of a cooperative agreement with the Interstate Stream Commission. So we pull that data from EBID's Website, and we do just some real basic analysis to show the -- the change over a one-year period of, you know, what the groundwater level did as compared to the previous irrigation season.
- Q. You're looking at snapshots year to year, but you haven't done any long-term trend analysis, have you?

1 A

A. No, I have not.

- Q. Is it your understanding that that trend analysis will be testified to by New Mexico's experts at the spring?
- A. That's my understanding. All we're trying to show here is provide information as to what the -- the groundwater level did the previous year.
- Q. Okay. And then if we go to the next slide, in this demonstrative that -- that you prepared from your 2019 annual report, is this information that you provide in each one of your annual reports?
- A. We've started to incorporate it as part of our more recent reports, yes.
- Q. Just very briefly, what is this that you're summarizing here?
- A. So what I do is I reference the New Mexico
 Department of Agriculture statistics bulletin. They
 put that out every year, and it reflects production
 numbers from the previous year. And I just include
 it, again, as information. For us, it kind of just
 ties the loop back, you know, what was the result of
 the amount of water beneficial used within the water
 master district, plus the result of that, and here you
 can see on the demonstrative, as it relates to pecans,
 in 2018, New Mexico ranked number one with the

production of 91 million pounds produced valued at over \$173 million. In Dona Ana and Sierra County accounted for a large -- a good portion of that production at 67 percent, and then in the middle category, you see chile. Of course, chile is a pretty big staple, particularly in the Hatch Valley. For the first time in 2018, New Mexico surpassed California as number one producing state for chile peppers. their national rank was number one with 71,000 tons produced in 2018 valued at \$53.8 million. On the very far right-hand side, one of our lesser-known valuable crops, I think Mr. Shane Franzoy testified to some of these figures, but in 2018, New Mexico ranked fifth in the nation for production of onions with the crop valued at \$68 million, and, of course, Sierra and Dona Ana County account for a large portion of that, but there are also onion-producing counties in southern New Mexico that contribute. And, again, I'll just mention that, you know, these aren't numbers that I I just pulled these straight out of the Department of Agriculture's Statistics Bulletin.

- Q. You haven't done any long-term trend analysis, though, on these statistics, have you?
 - A. I have not, no.

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Q. Then on to the next slide, please. This is

similar to what we looked at before so we won't spend much time on this, but this is just, again, a summary of the water use that you report on for it -- excuse me -- in each of your annual reports?

A. That's correct.

- Q. If we go to the next slide, the last one, is this also a summary table that you report on in your annual report?
- A. It is. And it's essentially the same data from the previous slide. What we do here is we try to break it down further and describe the use per sub basin and sub basin as identified by the Lower Rio Grande Adjudication, just to show the different uses within each particular sub basin within the water master district.
- Q. Okay. And you continue to prepare annual reports and provide all of this information each year in those annual reports; is that right?
 - A. That's correct.
- Q. And then overall, just in conclusion, based on your testimony today and your annual reports and reporting and enforcements, how would you summarize New Mexico's ability to administer water rights in the Lower Rio Grande?

MR. GOLDSBERRY: Objection; calls for a

1 narrative. 2 JUDGE MELLOY: I'll sustain. 3 (BY MS. THOMPSON) Mr. Serrano, do you believe 0. that your administration and enforcement is effective 4 5 administration in the Lower Rio Grande? 6 Α. I do, yes. 7 Q. And why is that? 8 As a result of all the processes we have in Α. 9 place, to actively administer the water, the metering 10 measure report that water usage, I would agree with 11 that statement. 12 MS. THOMPSON: I don't have any more 13 questions. 14 JUDGE MELLOY: Who's going to go first, 15 Mr. Goldsberry or Mr. Dubois? 16 MR. GOLDSBERRY: I'm going to go first, 17 Your Honor. 18 JUDGE MELLOY: All right. You may 19 start. 20 CROSS-EXAMINATION 21 BY MR. GOLDSBERRY: 22 Mr. Serrano, with regard to the last opinion Q. 23 that you shared with us about the administration 24 system that's been established in New Mexico in 25 District 4, I take it that only goes back ten years or

so, right?

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A. My experience, of course, goes back ten years, but I think there were processes in place prior to that.

- Q. There were processes, but not all of the processes that you've described here today that are in place in 2021, correct?
 - A. That's correct.
- Q. Okay. Let's take a look at -- well, we can do this a couple of ways. Let's look at New Mexico Demo 59, Page 26. This is a map of your monitoring wells that you talked about in terms of -- monitoring wells for groundwater elevation. Am I correct in my understanding that you are not involved in actually pulling any of this data from the field, this is simply information that you get from EBID?
- A. That's correct. We pull it off of the Website.
- Q. While we're on the groundwater monitoring, when did you start doing this in your annual reports?
- A. Mr. Goldsberry, I think that would have been in the 2014 to 2016 time frame.
 - Q. And why did you add that to your workload?
- A. Well, just as we continued to evolve, I felt like it was an important aspect of the information

available within the water master district to include, and it shows in conjunction with amount of water that we report as diverted, what the corresponding water level would be within that year.

- Q. So this was your idea; it wasn't one of your superiors' ideas?
 - A. No. This was my idea.

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- Q. All right. Let's look at Demo -- New Mexico Demo 59, Page 25. This is your seven-year comparison of irrigation groundwater withdrawals to the EBID surface water allotment. When did you first begin putting this information into your annual reports?
- A. I want to say it was around the same time as the previous slide, 2014.
- Q. Okay. And why did you add this to your annual report, this information?
- A. Again, this was -- this was a determination. I felt like it was important information to have just to show that correlation between either increased or decreased surface water availability and the corresponding amount of groundwater that gets pumped.
- Q. Why is this information important in your estimation?
- A. Because the amount of groundwater that gets diverted every year, at least supplementally for

1 irrigation, is heavily dependent upon the amount of 2 surface water that's available. 3 As I understand this chart, in a given year, 4 the -- let's take 2020. The number in black, the 5 218,231 represents the total irrigation groundwater 6 withdrawals in the district, correct? 7 Α. Correct. And that -- and that information comes from 8 0. 9 your metering information; is that also accurate? 10 Yes, sir, that's accurate. Α. 11

- Q. Okay. That doesn't include any groundwater withdrawals for irrigation that you haven't captured in your metering information for that particular year, correct?
- A. You're referring to -- to water that -- that we didn't account for that didn't get reported?
 - Q. That's what I'm referring to.
- A. Then that's correct.

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- Q. Then the blue number, the 105,142 acre-feet represents a surface water allotment from the Rio Grande Project. It's an allotment that was granted for irrigation purposes by EBID. Did I understand that correctly as to the source?
- A. Correct. The final allotment voted on and approved by the Board and then multiplying that by the

1 acreage.

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- Q. And when you use the term, "Final allotment approved by the Board," what does that refer to?
- A. It's my understanding in attending those meetings that there is, on occasion, an initial allotment, and then there may be increases to the allotment thereafter, and then at some point during the irrigation season, there's a final number that's -- that they put out there.
- Q. Your description of this graph or chart, you followed the same routine for each of the years represented on the chart, correct?
 - A. That's correct. It's consistent.
- Q. And -- and it's also consistent with regard to the source of the data that's represented, correct?
 - A. Yes.
- Q. All right. And if I wanted to determine how much water was available for irrigation in your district in a given year, what I would do is I would add the blue number and the black number, correct?
 - A. The total combined amount, that's correct.
- Q. Do you know what the full allotment to EBID number is?
- A. As I sit here today, I don't think I could requrgitate that number without a calculator.

1	Q. Well, you used to at one point when you
2	were putting this chart in your annual reports, you
3	used to show that allotment number, did you not?
4	A. I did. That's correct.
5	Q. All right.
6	JUDGE MELLOY: Excuse me just a second,
7	Mr. Goldsberry, just so the record is clear, I think
8	we were talking about a demonstrative exhibit before.
9	This is New Mexico 929, Page 17, as I understand it,
10	that we're looking at; is that correct?
11	MR. GOLDSBERRY: That's correct, Your
12	Honor.
13	JUDGE MELLOY: Okay. All right.
14	MR. GOLDSBERRY: All of many of the
15	documents from the demonstrative and I guess I
16	should be using those to be more accurate, those
17	exhibit numbers.
18	Q. (BY MR. GOLDSBERRY) Let's take a look at New
19	Mexico 429 at Page 17. Okay. I believe that this was
20	429 is your report for the year 2016, and does that
21	refresh your recollection as to what you believe the
22	full surface water allotment was for EBID?
23	A. That's correct.
24	Q. Okay. And what was the source for the number
25	that's represented by the red dotted line?

A. Again, that would be -- that would be a simple calculation done on my part taking the final allotment and multiplying it by the entire 90,640 acres.

- Q. Well, that's labeled -- the red line is labeled as the full surface water allotment. That's not a particular allotment for a given year, is it not?
- A. Oh, excuse me. I'm sorry. If I could correct -- you're correct, Mr. Goldsberry. That red line would be 3.024, as I understand it, to be a full surface water allotment to EBID multiplied by the 90,640 acres.
- Q. Okay. That number doesn't have anything to do with how many acres are actually in irrigation in a given year, does it?
 - A. No, it does not.

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- Q. Isn't that also true of your numbers for the EBID allotment on a year-by-year basis?
 - A. Correct. That's just a volume.
- Q. Now, you spent some time describing your investigative activities involved in the complaint from 2012 regarding illegal surface water withdrawals from the Rio Grande, and as I understand it, based on your testimony, you worked on that project for -- from

The ones

1 2012 -- some time in 2012, up until this year, 2 correct? 3 Α. Those are issues we continually 4 monitor. 5 0. And during that period of time, had there 6 been any additional illegal pumpers, if I can use that 7 term, which you identified? 8 No, sir, I don't think there has. 9 10 11 12 excuse me. 13 0.

- we identified in that initial investigation, it's my recollection that we resolved those issues, and there hasn't been any additional that have arose -- arisen,
- As part of your day-to-day activities as the river master, do you include any activities to try to identify illegal pumpers from the Rio Grande?
 - Α. Yes.

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- And what -- what are those activities?
- Well, through the course of either my or my Α. staff's field work activities as we're doing our work within the valley and different portions of the valley, we'll frequently make sure that we're keeping an eye on the river to make sure that there's no illegal activity occurring.
- Q. Okay. Have you had any additional complaints about illegal pumpers that you have investigated

during the time that you've been the water master for the Lower Rio Grande?

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- A. We have received complaints from time to time from constituents or other entities identifying potential problems, and we go out and investigate, and a lot of times, it might -- on many occasions, it's that IBWC pump that's in the river for operation and maintenance. People see that, and it sets off a red flag, and we'll go out and double-check to make sure it's all in accordance with their ability to do that.
- Q. Let's talk for a few minutes about the OWMAN program that you've described for us and that came out of the Stream System 101 settlement. Are -- are there any limitations on the total number of acres that can be included in a particular OWMAN plan?
 - A. I'm not aware of that kind of limitation.
- Q. Okay. Are there any limitations under the OWMAN plan -- the OWMAN program if I can call it that with regard to where combined properties are located?
- A. They have to be located within the Lower Rio Grande Administrative Basin.
- Q. But I could -- for instance, I could combine, if I owned property in the Rincon Valley and in the Mesilla Valley, I could combine those into a single OWMAN plan, correct?

A. That's correct. As I understand it, there was no limitation in the 101 agreement that would prohibit that.

- Q. Is the OWMAN program available anywhere in any of the other districts in New Mexico?
- A. The version -- the version of the ownership management program, as it exists in the Lower Rio Grande, is not available in other parts of the state, but I think the concept, you know, of flexibility in managing water and shortage sharing is -- is used in other parts of the state, particularly as it regards community ditches and acequias. There's some specific statutory allowances that allow them to group and use water in and amongst lands that they have, and there's also shortage sharing that occurs in different basins.
- Q. Well, wasn't there also a way that you could accomplish the same thing as the OWMAN program in District 4 prior to the Stream System 101 agreement?
- A. Yes, sir, I think there was, and we commonly referred that as a combine and commingle application.
- Q. Right. And in this case, we've seen a -- an application for a combine and commingle, I guess, permit. Tell me the differences between the combine and commingle program that existed before Stream System 101 and the current OWMAN program?

A. I would say that combine and commingle process was -- it would fall under that category of water right change that we described earlier today. So it would follow our traditional application process whereby water right owner would have to -- they apply using designated form, has to go through publication, review and analysis by our office, and then recommendation and approval.

- Q. And am I correct in my understanding that your current OWMAN program doesn't require any of those steps?
- A. I wouldn't agree with that entirely. I think it requires some -- some of those steps, right. They do have to submit notification. We do review it to make sure that the water rights being proposed meet the conditions, that they're in good standing, and then we'll implement it. But there are differences.
- Q. Well, the notification you're talking about is notification to the Office of the State Engineer, correct?
 - A. That's correct.

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- Q. There's no publication so that other water right holders can learn of this particular OWMAN plan that's being considered?
 - A. That's correct. As I understand the 101, it

1 did not include any provisions for publication. 2 Is there a fee charged for the submission of 0. 3 an OWMAN plan? 4 Α. There's not. Again, as I -- as directed 5 under the 101, there's no fee structure available. 6 Okay. And if I recall your testimony at the Q. 7 time of your deposition, in fact, your staff will 8 actually fill out the OWMAN form for some of the water 9 right holders, correct? 10 We will assist them in filling out those 11 forms because they don't always have all of the 12 information available to them. 13 0. What is the total acreage that is currently 14 covered by an OWMAN plan in District 4? 15 As of last count, it's approximately 53,000 16 acres. 17 When was the last count? 0. 18 That would have been in our -- our 2020 Α. 19 annual report. Maybe we could go back and look at 20 that. 21 No, that's all right. That's close enough. 0. 22 That's my recall of reading the report. 23 Α. Okay. 2.4 JUDGE MELLOY: Mr. Goldsberry, are you 25 switching gears at this point?

1 I was about to, yes. MR. GOLDSBERRY: 2 JUDGE MELLOY: Well, then maybe this 3 would be a good point to take our break then. Why 4 don't we break for 20 minutes. We'll break until 3:20 5 our time. Thank you, everyone. 6 (Recess.) 7 JUDGE MELLOY: Looks like we have 8 everyone back. You may proceed, Mr. Goldsberry. 9 MR. GOLDSBERRY: Thank you, Your Honor. 10 0. (BY MR. GOLDSBERRY) Mr. Serrano, I believe 11 you testified that your current staff is -- you have 12 four assistant water masters, correct? 13 Α. That's correct. Yes, sir. 14 0. Okay. And if I recall your testimony from 15 your deposition, when you started in 2012 -- well, let 16 me just turn it into a question rather than a speech. 17 In 2012, how many assistant water masters did you 18 have? 19 Α. When I started as the water master in 2012, I 20 had one assistant. 21 0. Okay. And have there been -- and when did 22 you -- you get up to four assistant water masters, 23 what year? 2.4 Α. It was shortly thereafter 2012. It would 25 have been -- we did the bulk of those hirings in '13

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and '14 so probably by the end of 2014, if memory serves me.

- Since 2014, have there been periods of time 0. when you've had less than four assistant water masters working under your direction?
- Α. Yes. We've had -- we've had one position that has gone in and out of agency.
- Let's talk about your duties and the activities that you perform -- you and your staff perform to implement those duties. I'm interested in whether there are additional activities that you're responsible for that you haven't described here today. Are there such activities?
- You know, not substantively. There's not any Α. worth mentioning. I think we have some minor office work that -- that we would do, you know, in terms of creating reports and filing those reports and filing meter readings, but that's all in line with our overall duties.
- Are you still responsible for enforcement of the New Mexico well drilling regulations and rules?
- Α. Yes, sir. And that would go to what we testified earlier. We would be looking at those specifications when we do the inspections of those wells after they're permitted.

1 Okay. What percentage of you and your Q. 2 staff's time is spent in the field? 3 On average, 60 percent of our time would be Α. 4 in the field. 5 Okay. And I believe you testified at your 0. 6 deposition that, on average, you and your staff worked 7 in excess of 40 hours a week. Is that still true? 8 That's correct, Mr. Goldsberry. I may have 9 misspoken at the time of my deposition. There's days 10 where we will work well in excess of a standard work, 11 an eight-hour workday. So we'll have days where we do 12 10 or 12 hours, but what we do is we try to flex those 13 hours out at the end of the week or by the end of the 14 pay period so that way we don't exceed a total of 40 15 by the end of the week or 80 by the end of the period. 16 Q. When did you first become aware of this 17 litigation? 18 Around the time that I became the water Α. 19 master, I believe I still would have been an 20 assistant, but it was in that transitional time frame. 21 That would have been in 2012 then, 0. Okay. 22 correct? 23 Α. '11, '12, somewhere in there. 2.4 0. All right. When did you first begin working 25 on this case?

1 Oh, gosh. You know, it would have been in Α. 2 2012 when we first started having interactions with 3 counsel. 4 0. Okay. And what did you do to prepare for 5 your deposition today -- your testimony today? 6 Of course, I met with counsel, Ms. Thompson, Α. 7 and we -- we went over the various exhibits that I've 8 testified to here today. 9 Have you also been observing this trial? Q. 10 Α. I have, yes, sir. 11 Okay. You -- you've -- have you observed all Q. 12 of the trial so far? 13 Α. A good majority of it. I can't say I've seen 14 it all. 15 0. How many depositions did you participate in 16 or observe? 17 Almost all of the depositions for the Α. 18 Elephant Butte Irrigation District and then, of 19 course, my own. I can't recall any others beyond 20 that. Oh, excuse me. I apologize. I also observed 21 depositions of the City of Las Cruces officials. 22 I believe that you listed -- if you didn't Q. 23 list today in your testimony, you've made reference to it in your annual reports that you attend meetings, 24

and I -- I know, for instance, that you attend the

EBID board meetings. What organizations, in addition, 1 2 if any, to EBID do you attend their meetings? 3 I've also attended Rio Grande Compact Α. 4 Commission meetings, engineer advisors meetings, and 5 then I frequently attend local water users meetings, 6 and in addition to that, I also attend meetings of 7 ditch organizations or acequias from time to time if 8 they have specific questions for me or with regard to 9 the Lower Rio Grande. 10 0. Do you attend the meetings of the pecan 11 growers? 12 Α. As the pecan growers, no, I do not. 13 0.

- And you -- you testified that you are -- you and your staff are responsible for entering all of the well metering data that you receive into the WATERS database, correct?
 - Α. That's correct.

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- And that's been true since you've been the 0. water master, has it not?
 - That's correct, yes, sir. Α.
- 0. Have they gotten you any additional help since the time of your deposition with that activity?
- There's a meter clerk that has been Α. Yes. hired in the -- our abstracting bureau, and her primary purpose is to enter and image meter readings,

1 but she's not directly supervised by me at this time. 2 Does that mean you're not currently 3 responsible for entering all that data into the WATERS 4 database? 5 Α. Well, I'm ultimately responsible for all that 6 meter data, so even -- even the data that she enters, 7 I'll review. Okay. As I recall, the -- there's some 8 0. 9 14,000 pieces of information that you have to enter on 10 an annual basis? 11 Α. That's correct. That number is in the 12 ballpark. 13 0. All right. Let's talk about over diversions. 14 First of all, how do you define what an over diversion 15 is? 16 That would be an amount of water diverted Α. 17 above and beyond that which is allowed under the water 18 right. 19 And the water right, what are the components Q. 20 of the water right? 21 Well, it depends on the type of water right. Α. 22 Of course, if it's a groundwater-only water right, 23 then the only component there is groundwater, of

course, and a combined scenario where it's surface and

groundwater, then there's two components that we have

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1 to consider. 2 And the -- where you have groundwater only, 0. 3 what is the amount of that right? What is the FDR? 4 Α. As I understand it, it's 4.5 acre-feet per 5 acre unless otherwise determined by the adjudication 6 court. 7 Q. Okay. How long is this expedited hearing 8 procedure that you told us about have been in effect? 9 If I remember correctly working with counsel, Α. 10 that would have been -- we developed those procedures 11 towards the tail end of 2014, going into 2015. 12 Q. Okay. As part of that procedure, there is 13 the possibility of having a hearing, correct? 14 Yes, sir. Α. 15 0. And how many times have you testified in 16 those administrative hearings? 17 I've not testified in those particular Α. 18 hearings. We've been prepared to go on a number of 19 different cases but have been successful in resolving 20 those prior to hearing. 21 So the hearing process hasn't actually been 22 held to your knowledge?

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Α. I don't know that I would necessarily agree with that in terms of the hearing process. I think we have had scheduling conferences with the hearing

examiner and gotten prepared and actually had everything in order to have that hearing, so from a process perspective, I think we've done that, but the actual hearing from the examiner with testimony from both sides has not occurred.

- Q. Are you currently tracking over diversions on a realtime basis? Let me withdraw that question.

 It's not as clear as I'd like it to be. Do you and your staff follow the over diversion situation on a day-to-day basis throughout the course of the year?
- A. On a day-to-day basis, I can't say that we do.
- Q. Okay. Do you do more than once a year calculating whether a person is over diverted?
- A. Well, I think if you're referring to our -our end-of-the-year process, of course we do that once
 a year, but as we're going through and entering meter
 data, if an instance pops up where somebody's over
 diverted and we can confirm that that over diversion
 occurred, many times we'll reach out to that owner and
 advise them of the status of that over diversion and
 try to get that ball rolling sooner rather than later.
- Q. How many times a year has that occurred on average?
 - A. Oh, gosh. There's probably anywhere between

10 to 25 instances of that.

- Q. How many water users do you receive information from or how many water users are you monitoring currently?
- A. That figure is a little harder to identify because we generally track, you know, our actively-metered wells, and those wells might be associated with a number of different water right owners and potentially a number of different users, so I -- I can only say at this time that -- that we track 3,000 actively-metered wells.
- Q. How do you keep track of whether a meter is active?
- A. Well, if -- if the well is active and it's in working condition, then there needs to be a property functioning meter installed on that well. If -- if the well is not in operation and it's not -- there's no potential for it to be used and it does not have to be metered and it could -- you know, there's no necessity for them to report that usage because it's not functioning.
- Q. I guess my question must not have been very clear. In your -- in your annual reports, you always report on what sort of compliance that you got in terms of people submitting their meter readings to

1 you, and if you go from year to year in those reports, 2 that number varies, actually in some years quite a 3 bit, but I -- my question was how do you know how many 4 wells are active in a given year? 5 Α. That would be through inspection and then a 6 reporting meter usage. 7 Are you inspecting every well every year? Q. 8 Α. No, sir. 9 Q. How many wells do you, on average, inspect 10 per month, you and your staff? 11 You know, there's some months -- I do track Α. 12 these numbers on occasion. There's some months where 13 we do 80 inspections, and that's a combination of just 14 well inspections and meter tests. 15 0. Let's talk now a little bit about, and I 16

- believe the term that you use is reconciliation process of dealing with folks who have diverted more than they're entitled to, and what are the -- I believe there's four -- four possible ways of obtaining reconciliation, correct?
- Α. There's four primary ways and then there's that fifth option for an alternative or a combination.
- Okay. And one of those methods of 0. reconciliation is through the OWMAN program, correct?
 - Α. That's correct.

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And tell me how that works in -- in a -- on 0. an example situation?

Generally it would be a situation where an Α. owner/operator has multiple tracts that they might own or operate, and they haven't provided notice to the state engineer of that activity. Sometimes it's a situation where they came to acquire that, you know, at the early part of the year, midway through the year, but then started to manage those lands conjunctively within -- within the means of the OWMAN. So at the end of the year when we do the accounting, we're looking at individual water rights, not -- not the combined amount, and it would be flagged as an over diversion. So we'll send out the notice. owner will come back, and they'll say, you know, look, I was -- I own these lands, here are the records, that's a valid existing water right, I was irrigating this, and then at that point, we'll allow them to use the ownership management program, so that way we can accurately reflect the accounting associated with their activities.

- So you allow owner -- owners of water rights Q. to create OWMAN plans after the fact?
 - Α. In some occasions, yes, sir.
 - Let's -- let's talk about, I think the term 0.

that you used was meter blitz, and as I understand that term, it refers to the situation where you have inadequate meter reporting, and you actually go out and you and your staff go out and read the meters so that you can establish what you consider to be an adequate amount of -- of data for the year, correct?

- A. I'd agree with that, yes, sir.
- Q. All right. How many years have you had to do a meter blitz?
 - A. We do that every year.

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- Q. Oh, you do it every year. And what is your ultimate goal or what -- what level of compliance are -- are you satisfied with? Is there -- is there a threshold?
- A. So what we're trying to do at the end of the year with the meter blitz is, again, we're trying to facilitate a complete and accurate data set, and a lot of times, when we identify those wells or meters that are still outstanding, they may have submitted meter readings for two or three of the reporting periods, but they may have missed the last one. That's typically the case because, you know, it is around the holidays and people are busy with other things so it might not be that we didn't have any data for the year. It might just be that we didn't have that

ending reading. So what we'll do, again, is we'll go out, and we'll acquire that information with the goal of trying to get to somewhere around 95 percent total meter data entered for the end of the accounting year, and typically what I see is that amount that -- that we can't acquire, it's generally associated with wells that we have metered that are small in nature generally fall into that used category as domestic or multiple domestic, and they're just physically hard to acquire. They're in somebody's backyard and they're locked up and we can't get a reading off of them so that's why there's always a little bit, you know, we're always sub 100, and in some instances, we're sub 95 percent.

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- Q. How many of the ten years that you've been the water master have you been under 95 percent?
- A. There's several years. I think we've only been able to get above 95 in a couple of different occasions, but, again, that amount outstanding is generally associated with small diversion amounts, small uses.
- Q. What's the -- what's the largest, in terms of acreage, OWMAN plan that you've got going currently?
 - A. We have a few that are over 3,000 acres.
 - Q. What does your office do to implement the

terms of the Rio Grande Compact, if any?

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A. Mr. Goldsberry, as I understand it, the Interstate Stream Commission has a dedicated staff for that activity.

- Q. That isn't what I asked you. I want to know what your staff -- you and your staff do to implement the Rio Grande Compact?
- A. Well, I believe if you're referring to our activities, you know as we've discussed here today, we're conducting those activities to ensure compliance with all applicable statutes, rules, regulations, and orders, and as I understand it, the Rio Grande Compact is incorporated as a statute?

MR. GOLDSBERRY: Your Honor, I'd like to read into the record at this time Mr. Serrano's answer to that question at the time of his deposition and this question and answer can be found at Page 268 of the deposition. The question asked at the time was the same, "What does your office do to implement the terms of the Rio Grande Compact, if any?" The answer was, "My office does not do anything locally to effectuate the Compact."

Thank you, Your Honor. That's all I have.

JUDGE MELLOY: Thank you. Mr. Dubois?

CROSS-EXAMINATION

BY MR. DUBOIS:

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- Q. Mr. Serrano, it's good to see you again. I'm Jim Dubois. I'm representing the United States in this matter. I'd like to follow up on a few things that you've covered either with Ms. Thompson or Mr. Goldsberry.
- MR. DUBOIS: Can you pull up New Mexico 431? I'm screwing up my paralegal by skipping over things that have already been covered previously, Your Honor.
- Q. (BY MR. DUBOIS) All right. Mr. Serrano, I've got up on the screen New Mexico 431, which you discussed, I believe, with Ms. Thompson, and as water master for the Lower Rio Grande Water District, you're appointed to administer the groundwater to the district; is that right?
 - A. That's correct.
- Q. Okay. And looking at Page 2 in the conclusions of law -- oh, wait. I'm sorry. I'm missing that. Paragraph 2, you are required to regulate and control the groundwater of the district to prevent impairment of senior water rights owners, right?
- 25 A. Correct.

1 In Paragraph 5 down below, it states that, 0. 2 "The water master is to apportion the waters of the 3 District in, quote, accordance with the Active Water 4 Resource Administration regulations for the Lower Rio 5 Grande Water District." Is that right? 6 That's correct. Α. 7 Q. Okay. Now, in that -- in that statement, it 8 says "apportion the water." When you're using -- when 9 this document uses the word apportion the water, you're not talking about apportionment in a Compact 10 11 sense; you're meaning division within the district; is 12 that correct? 13 Α. As I understand it, yes, sir, that's correct. 14 That's all I'm asking is what you 0. 15 understand. And are you aware that adaptive water 16 resource management framework regulations were at one 17 time proposed? 18 I'm aware that the statewide framework rules Α. 19 are in place. 20 Are there district-specific regulations that 21 were adapted? 22 Currently, there are not, no. Α. 23 Okay. Now, looking at Paragraph 6 of Order 0. 2.4 169. I believe that's on Page 3. Thank you. 25

Paragraph 6. You talked about that with Ms. Thompson,

I believe, right?

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- A. Yes, sir.
- Q. Okay. And Paragraph 6 states that it's your duty to -- in Sub C, "To curtail out-of-priority diversions determined by the State Engineer to be causing injury to senior priority water rights." Do you see that?
 - A. That's correct. I see that, yes.
- Q. Okay. What does it mean that a diversion is out of priority?
- A. I understand that to mean that in the environment of a priority call, that whoever is determined to be junior to that call date would be out of priority.
- Q. So it means that a water right with a junior priority is depleting water that would otherwise be diverted and placed a beneficial use by a water right that was appropriated at an earlier date; is that correct?
- A. I don't know that's correct. I think there would be some determination that would have to be made, you know, to validate that.
- Q. That wasn't the question. The question is that what it means to be out of priority is that a water right with a junior priority is depleting the

1 water that would otherwise be depleted -- or diverted 2 and placed to a beneficial use by a water right that 3 was appropriated at an earlier date; isn't that 4 correct? 5 Α. Yes, sir, that's correct. 6 Okay. What does curtail mean here? Q. 7 Α. Reduce or stop. 8 Okay. And what does it mean to be senior in 0. 9 priority? 10 Α. To have a more senior water right that 11 predates some junior right. 12 Okay. And as I understand it under New Q. 13 Mexico law, out-of-priority diversions or depletions 14 by a junior right can be allowed if the junior 15 appropriator offsets the depletions to the river to 16 the senior right in a manner that prevents injury to 17 the senior priority water right; is that right? 18 Α. If I could ask, what -- what law or statute 19 are you quoting, sir? 20 I'm asking you as someone who administers 21 water rights under New Mexico law to your knowledge? 22 Would you mind restating the question? Α. 23 No, not at all. As I understand it, under 0. 2.4 New Mexico law, out-of-priority diversions or

depletions by a junior water right can be allowed if

1 the junior appropriator offsets the depletions to the river in a manner that prevents injury to the senior 2 3 priority water right; is that correct? 4 Α. I understand that to be true in the context 5 of a priority call. I don't know that that's true 6 under general administration terms. 7 Okay. And we can agree, can't we, that most Q. 8 of the wells in the Lower Rio Grande Basin were 9 drilled or appropriated between 1950 and 1980, can't 10 we? 11 A good majority of them, yes, sir. Α. 12 For those wells that are primary groundwater Q. 13 14 are? 15 Α. Groundwater only. 16 Q. Okay. Priority date for primary groundwater 17

- rights, do you know what primary groundwater rights
- rights is the date of the drilling of the well, right?
- Α. That's correct.

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- And we can agree that the Lower Rio Grande Q. adjudication court has currently determined that the priority of the Rio Grande Project is 1903, correct?
 - That's my understanding, yes, sir. Α.
- 0. Okay. So as currently decreed, the priority for the Rio Grande Project is senior to most of the wells in the Lower Rio Grande Basin, right?

1 A. That's correct.

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Q. Okay. As water master, you do not track or report on the impacts of groundwater withdrawals on the surface flows of the Rio Grande or on the Rio Grande Project water supply, do you?

- A. I do not.
- Q. Okay. As water master for the Lower Rio Grande, you do not attempt to calculate the interception of surface water by the groundwater rights that were appropriated prior to the basin declaration in 1980; is that right?
 - A. I do not.
- Q. You do not administer the groundwater withdrawals by pre-basin declaration wells to prevent interception of the surface water appropriated by the senior surface water rights of the Rio Grande Project, correct?
- A. Mr. Dubois, I believe we, as stated here today, we only administer to the permit condition and the water right and amounts and limits. I don't think -- at least I don't specifically look at, quote unquote, interception.
- Q. Okay. So it's correct to state that you did not administer the groundwater withdrawals by pre-basin, pre-1980, if you will, wells to prevent

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interception of the surface water appropriated by the senior surface water rights of the Rio Grande Project?

- A. Correct. We administer to the conditions of approval of the permits.
- Q. All right. And you have no information available to you that would define the impact from each individual well on surface flows in the Rio Grande or on surface flows available to the Rio Grande Project, correct?
- A. There may be some information in the file in the context of a review or recommendation that were done in some specific instances that would provide information that would show potential impacts, but on a basin wide scale, I don't have that information.
- Q. And in what files are you talking about? You said that there might be --
 - A. The water --
- Q. The water right file? So there are some files that have information on the impact of those wells on the flows in the Rio Grande?
- A. If that, in fact, was included as part of the review of those permits, then it would be included in the file.
- Q. Are you aware of any files that had that information?

1	A. It's my understanding that there should be.
2	Q. I understand. My what I asked you was are
3	you aware of any files that have that information?
4	A. I think generally, yes, sir. I am trying to
5	think of a specific example to give you, but I can't
6	at this moment. But generally, I think there are.
7	Q. Okay. And do you administer strike that.
8	I just want to be clear about something. So
9	no permits were required for pre-1980 wells when they
10	were drilled, right?
11	A. Prior to 1980, that's correct.
12	Q. Hopefully the pre-1980 wells were drilled
13	prior to 1980, so no permits were required when they
14	were originally drilled, right?
15	A. Correct.
16	Q. And permits were only required for new wells
17	after 1980, right?
18	A. Correct.
19	Q. And no permits were required for those
20	pre-1980 wells until at some point they required a new
21	well either as a replacement well or as a change; is
22	that right?
23	A. I think just getting a little lost in the
24	language a little bit.
25	O. Okav. That's all right. Let me try let

me try and be clearer then. That's on me. For
pre-1980 wells or pre-basin declaration wells, to roll
in both the Rincon and Mesilla, no permits were
required unless and until there was a a new well,
either a replacement well or a change in point of
diversion or a change in type of use, things like
that, until there was a new well drilled, there was no
need for a permit?

- A. I think that's right. Until such time that the state engineer's jurisdiction was invoked through one of those changes.
- Q. Are there still -- are there still wells that were drilled prior to 1980 that are in use?
 - A. Absolutely, yes, sir.

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- Q. Yeah. So those wells never have had requirement for a permit?
- A. You know, I can't say that. I think there's probably quite a few of them that have had to come in and be replaced at some point or another.
- Q. But then -- but then you've got a new well, correct?
 - A. A replacement well, a supplemental well.
- Q. Right. But are there -- but my -- my original question, are there wells that were drilled originally prior to 1980 that are still being used and

have not had to have a new well permit?

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A. I think, yeah, there's instances of that, yes, sir.

- Q. Okay. And so those wells are still un-permitted, yes?
- A. That might not be the case. You know, they may be subject to some other element or process, right, so if the adjudication has made a determination or they've come in and filed for some other type of permit, not necessarily a replacement, then we might have conditions on file.
 - Q. All right. But you might not?
 - A. But we might not.
- Q. Okay. Are those wells still required to be metered?
 - A. Yes, they are.
- Q. Okay. And if someone was using, say, a thousand acre-feet -- that's probably a big well. 500 acre-feet prior to 1980, and they did not need to replace that well, and I'm just using hypothetical numbers here, until 2000, but between 1980 and 2000, they doubled or tripled the amount of water that was being taken out of that well. With me so far?
 - A. Yes, sir.
 - Q. Okay. So they would not have needed a new

1 permit to increase their diversions, correct? 2 They -- they wouldn't have invoked our 3 jurisdiction so --4 Q. Right. 5 -- correct. 6 By the time they invoked your jurisdiction in 0. 7 2000, the larger -- the larger volume of water 8 diverted after 1980 would be the standard that the 9 state would apply, correct? 10 It's -- it's my understanding that we would Α. 11 look at that historic beneficial use over time, and 12 that might include periods where they had more water 13 and other periods where they diverted less. 14 Okay. What are the limitations you enforce 15 in permits for an individual well? 16 Α. Each permit has limitations such as place of 17 use, purpose of use, and quantity of water. 18 Place of use. Irrigated acreage? Q. Okay. 19 Irrigated acreage, that would be place of Α. 20 use, yes, sir. 21 Okay. Place of use. And volume of the 0. 22 pumping, that would be a limitation on the permit? 23 Α. Yes, sir. 2.4 Q. Okay and the -- not only the number of acres 25 are specified, but the location of that acreage, the

place of use is -- is really two components of a

acreage limitation and a geographic location, correct?

A. That's correct.

Q. Okay.

A. There would be a --

- Q. And you -- and you enforce those on all of the permits; is that right?
 - A. Yes, sir.

- Q. Now, as water master for the Lower Rio Grande, you're involved in analyzing -- are you involved in analyzing the changes of points of diversion or places of use when a water right application change applications come in?
 - A. No, I'm not.
- Q. Okay. I think in discussing New Mexico
 Exhibit 881, you talked about the fact if there's a
 determination of whether the proposed change or
 replacement well increases the depletion on the
 surface system; is that correct? And just as a
 refresher, I've pulled up 881. Do you remember the
 discussion with Ms. Thompson about this exhibit?
 - A. Yes.
- Q. You said in the process of the determination of whether the proposed change of the replacement well increases the depletion on the stream system, correct?

A. If I recall my testimony, I mentioned increased above and beyond that to which it has

occurred historically.

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- Q. Okay. And as part of that analysis, there's no determination of the impacts of the well pumping on surface flows or senior rights in the -- in the period prior to the change; is that correct?
- A. It's my understanding of that language when it says above and beyond that historical amount that it would -- it would include time period before the proposed change.
- Q. So a determination is done of the -- of the impact of that well on the surface system prior to the change and then after the change; is that correct?
- A. You know, it's my understanding that it's cumulative. That would be --
 - Q. And what do you mean by "cumulative"?
- A. That it's the entire amount of the water right as it exists, and then with the potential change, and in this case, it's a replacement well so there's really no change, other than you're replacing the point of diversion.
- Q. Do you know what kind of assumptions they use for -- for determining the amount of pumping prior to the change and after the change?

1	A. No, sir, I'm not too familiar with that
2	process.
3	Q. Okay. How does the state determine whether
4	there will be an increase in impacts on the river
5	system; do you know?
6	A. Through evaluation of these proposed changes,
7	these applications.
8	Q. What do they use to what do they use to
9	evaluate the proposed change, what tool?
LO	A. Oh, gosh. There's a model they use, but,
L1	again, I'm not familiar with that process.
L2	Q. Okay. That that's that's why I needed
L3	to know. But there's a groundwater model that's used
L4	to make the determination of the impact the change
L5	the impact of the change; is that correct?
L6	A. Some calculations based on a model.
L7	Q. But you're not familiar with the model?
L8	A. No, sir.
L9	Q. And you're not familiar with the pumping
20	assumptions that go into the model; is that correct?
21	A. That's correct.
22	Q. And you don't know whether the model is based
23	on actual historical pumping records, correct?
24	A. That's correct.

Q. Okay. You talked some about supplemental

wells, I believe. Can you explain what a supplemental well is?

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- A. Supplemental well is -- is an additional well to supplement lost capacity from an original well, so if -- if the original well is getting old and if equipment is failing, then a water right owner could apply the state engineer to -- to supplement that loss of supply and try to regain that capacity so that way they could efficiently irrigate their land.
- Q. So is supplemental well -- if it's a supplemental groundwater right, do you have to have a surface water right that it supplements?
- A. Not necessarily. You can have a supplemental well on a groundwater-only right.
- Q. If this is a supplemental well for a surface water right, do you have to have -- are you familiar with Templeton rights, what's referred to as a Templeton right?
- A. I've heard the term. I can't say that I'm thoroughly familiar with the concept.
- Q. Okay. Are you familiar with the concepts -you know, if you're not familiar with it, I'm not
 going to bother with that.
- All right. Let's talk about OWMAN for a minute. Okay? Can you pull up 486, please? You

1 talked about this document, I believe, with both Ms. 2 Thompson and Mr. Goldsberry, right? 3 Α. Yes. 4 0. Okay. And I believe you said that -- that 5 there is no geographic limitation on the land that can 6 be pooled in an OWMAN plan; is that right? 7 With the exception of the Lower Rio Grande 8 District boundary. That's -- that's a geographic 9 limitation. 10 You're correct. Okay. Within the -- let me 0. 11 rephrase that. Within the Lower Rio Grande District, 12 there's no limitation on what lands can be grouped or 13 pooled, right? 14 Α. That's correct. 15 0. Okay. And the OWMAN acres within the Lower 16 Rio Grande District totals to be about 53,000 acres 17 that are within the district; is that correct? 18 Α. Approximately. 19 About how many actually irrigated acres are Q. 20 there in the district; do you know? 21 Actual irrigate -- that number fluctuates. 22 don't have a real accurate number as I sit here today. 23 Okay. Approximately how many? 0. 2.4 Α. Gosh, Mr. Dubois. You know, somewhere --

somewhere between 75,000 and 85,000 roughly.

1 Q. Okay. 2 Α. That's -- that's actively irrigated on a 3 year-to-year basis. 4 Q. Right. So the OWMAN pooling or averaging of 5 total pumping is within basically that 75 or 85,000 6 acres; is that right? 7 Α. Correct. 8 Excuse me. And you set up an OWMAN plan by Q. 9 filing a form with the Office of the State Engineer, 10 correct? 11 Yes, sir. Α. 12 And that's filed with your office? Q. 13 Α. It is. 14 All right. And I believe you confirmed that 0. 15 there was no public process or public notice involved 16 in the review and approval of an OWMAN plan, right? 17 That's correct. There's no public notice. Α. 18 The review of the plan is just done by Q. Okay. 19 you or your office. Is it -- are the plans reviewed 20 by you personally or by someone in your office? 21 The majority, if not all, are reviewed by me Α. 22 personally. 23 0. Okay. 2.4 Α. They're also subsequently reviewed as they're 25 getting into the WATERS database by our abstract

bureau.

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- Q. Okay. There's no hydrological evaluation of impacts associated with the OWMAN plan, right?
 - A. That's correct.
- Q. All right. So long as a farmer submits their owner management form, their water rights are pooled, correct?
- A. No, sir. Again, it'd go under review, and I'd make sure the water rights are in good standing. There are instances where we determined that they're not, and it would not allow to be pooled so simply submitting a form doesn't necessarily reflect automatic approval.
- Q. Okay. So the only basis that you've identified for the OSE or for you to reject an OWMAN plan is essentially three reasons, one, a well -- some or all of the wells are not in good standing; two, the ownership or lease is not properly reflected; or, three, they're trying to extend it to surface water-only acreage; is that right?
 - A. I think that's accurate, yes, sir.
- Q. All right. So those are the only three reasons for rejecting a plan, right?
- A. That's correct. I don't want to eliminate some future reason, but there might be something that

comes up.

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- Q. Understand. Understand. As things stand today. So is there a procedure for rejection of a plan?
- A. There's no formal procedure. Usually what I'll try to do is reach out to the landowner, let them know what the situation is, that it won't be included, and return that form to them or, you know, if a portion of the water rights were approvable, then we'll process those and eliminate the one that was denied.
- Q. And so that would be the -- the well that's not in good standing?
 - A. Correct. The water right.
- Q. The water right. And what does it mean for the water right to not be in good standing?
- A. That there's some sort of issue with regards to the permitted conditions of approval. They may have had, you know, some conditions that have specific requirements that they have not met yet.
- Q. Okay. Or if they have over diverted and haven't rectified it yet, would that be a reason?
 - A. Absolutely.
- Q. Okay. Once a farmer puts land in an OWMAN plan, that plan is good until cancelled by the farmer,

correct?

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- A. By the farmer or if it's in a management situation, the water right owner chooses to opt out, so if their agreement -- if the rental agreement isn't continued for year to year, the manager may not come to us and try to pull the plan, but the water right owner might.
- Q. Okay. But the OWMAN plan is automatically renewed unless it's pulled, correct?
 - A. I think that's correct, yes, sir.
- Q. Okay. So long as the farmers' average volume across all lands doesn't exceed the cumulative volume of the rights included in the OWMAN plan, the amount that they can apply to particular acres within their plan doesn't really matter, correct?
- A. Generally, that's correct. There's some other specific conditions that we would adhere to statutory requirements to prevent wasteful application or -- or application that would be contrary to the conservation of public welfare.
- Q. All right. But otherwise once submitted, the only other requirement on the OWMAN plan is a quarterly pumping reporting, correct?
- A. Well, I wouldn't say that's it because they still have to comply with the commission of the

permits for the water rights which are being combined. So there's a whole host of different requirements that are still in place.

- Q. We're going to talk about that. But as long as -- but they are required to do quarterly pumping by the plan, correct?
 - A. The plan does not require that.
 - O. Okay.

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- A. Their permit --
- Q. That's just a general condition. Okay. Once the OWMAN plan is filed, the permit limitation on place of use for any individual well is expanded to all the lands under the plan, correct?
- A. Those lands as identified as water-righted acreage, yes.
- Q. So for Well A that was permitted originally for a hundred acres and they have put it into an OWMAN plan for, let's say, 400 acres, that well can be used on essentially -- or the water from that well can be used anywhere on that 400 acres, correct?
 - A. On that identified 400, yes.
- Q. Yeah. So once the OWMAN plan is filed and accepted, the individual permit limitations on place of use for any individual well is expanded to all the lands under the plan, correct?

All the lands under the plan, and we would 1 Α. 2 not allow for any expansion of that right. We still 3 want to make sure we hold them to that original 4 acreage identified in each of those water right files. 5 But if the water is usable on any of the land 0. 6 within the plan, that's an expansion from the 7 originally permitted acreage, isn't it? 8 I don't necessarily agree with that. I don't 9 -- it -- you know, they're not expanding by creating 10 an additional acre not recognized under the water 11 right. 12 Q. Okay. And once an OWMAN plan is filed, the 13 permit limitation on the volume of water that can be 14 withdrawn from an individual well is irrelevant, as 15 all the wells become alternate points for each other; 16 isn't that right?

- Essentially, that's correct. Of course, as I Α. mentioned, subject to a non-wasteful application and not being contrary to conservation of public welfare.
- But the basic -- but the basic statement I made was correct, right?
 - I believe so, yes, sir. Α.

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Okay. And once an OWMAN plan is filed, the 0. permit limitation on the point of diversion for a specific groundwater right also loses its importance

as the water attributable to a particular well can be taken from a number of different wells grouped in the plan; isn't that right?

- A. I think that is; however, I would kind of -I wouldn't say that it loses its importance, as you
 stated. I think each of those wells still maintain,
 you know, high degree of importance as it relates to
 being part of an element of water rights. So if
 somebody came in and their water right was included as
 part of an ownership management plan and they filed an
 application, we would still review that application,
 not in the context of the OWMAN but in the context of
 a water right. So in that essence, you know, I agree
 that it needs to maintain its importance.
- Q. So the only -- within an OWMAN plan, for purposes of your administration, the only consistently-applied permit term is the metering; isn't that right?
- A. No, sir. I think it's the metering, the permitted place of use for all the lands that are combined.
- Q. But the individual permits -- I'm talking about the individual permits. The individual permits, the only condition that is consistently applied in an OWMAN plan is the metering; isn't that right?

1 MS. THOMPSON: Objection. He's 2 mischaracterizing his testimony. 3 JUDGE MELLOY: I'll let the witness 4 clarify if he thinks it's not a correct 5 characterization of his testimony. 6 MR. DUBOIS: Okay. 7 Again, I don't necessarily agree with that Α. 8 I think the permitted place of use still statement. 9 applies in each of those water right files. 10 (BY MR. DUBOIS) But the water from those 0. wells can be used on land in addition to or other than 11 12 the land specifically defined in the permit, correct? 13 Α. Correct. Under the approved OWMAN plan. 14 So as in administering the OWMAN plans, the 0. 15 primary thing the water master -- that you as water 16 master have to track is the permitted cumulative 17 volume of all the wells pooled under the plan and the 18 cumulative acreage that's included within the plan; is 19 that accurate? 20 I think that is accurate. The volume is a Α. 21 function of acreage so they --22 Well, the volume is also provided in the Q. 23 permits, correct? 24 Α. Most of them, yes, sir.

I -- I suppose that is subject to --

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Yeah.

0.

subject to if they're within EBID, subject to the use of the surface water, which is a separate limitation.

So -- and that volume that is divertible by the water rights is based on the -- the negotiated maximums that were determined in the adjudication to provide for farmer demands at the full CIR agreed to in the 101 -- in the Stream System. Excuse me. I just blanked on stream system -- Stream System 101 settlement, right?

A. The FDR allowance.

- Q. Yes, I'm sorry. And the -- the 4.5 acre-feet per acre FDR amounts, that applies to basically all wells, correct?
 - A. To all water-righted acreage, correct.
- Q. All water-righted acreage. And there's no proof required under the 101 settlement to be awarded that 4.5 acre-feet per acre, correct?
 - A. I'm not aware of a proof requirement for 4.5.
- Q. Okay. And on the 5.5 acre-foot per acre, that is a separate process for establishment, correct?
 - A. That is, yes, sir.
- Q. Okay. And that was not tied to -- the 5.5 is not tied to historical use prior to the declaration of the basin, right?
- A. I'm not sure that's true. They were

1 available to provide any number of evidence that they 2 thought was necessary to prove that amount so there 3 may or may not have been pre -- pre-basin evidence 4 submitted. I'm not sure. 5 0. But pre-basin -- and let's -- when you 6 say "pre-basin," just so that the record is clear, 7 what you and I are both talking about is 8 pre-declaration of the basin in 1980 or 1982, right? 9 Α. That's correct. 10 Okay. So it -- the -- the -- to be -- to be 0. 11 awarded 5.5, there's no requirement that that use be 12 established before or pre-basin, before 1980 or '82, 13 correct? 14 MS. THOMPSON: Objection. The witness 15 already testified that he didn't know the answer to 16 that. JUDGE MELLOY: I didn't understand that 17 18 to be his testimony. If he can answer, go ahead. 19 MR. DUBOIS: I'll rephrase the question, 20 Your Honor, to make it clearer. 21 (BY MR. DUBOIS) The evidence of 5.5 acre-feet 0. 22 per acre could be evidence from any year up through 23 December 31st of 2011; isn't that correct? 24 Α. That's my general understanding, yes, sir.

Okay. And it can be based on evidence from

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1 any one year; isn't that also correct? 2 I believe so, yes, sir. Α. 3 And I believe you testified that there were 0. 4 1,017 claims for 5.5 acres in the -- in the LRG; is 5 that correct, in your basin? 6 Notice of the -- notice of intent that were Α. 7 filed for, yes. 8 Thank you. Different states, different 0. 9 nomenclature. It always is confusing. 10 And you've -- and approximately 580 of those 11 were sufficient that they are being processed as part 12 of the adjudication; is that correct? 13 Α. That's my understanding. They provided 14 evidence, and they're being processed, yes, sir. 15 0. And how many total acres does that represent? 16 Α. It's my understanding that that's right 17 around, you know, 50,000 acres, somewhere right in 18 there. 19 Pretty close to the -- pretty close to the Q. 20 OWMAN acreage then? 21 It's similar. Α. 22 Okay. Is it your staff that is checking the Q. 23 proof on those 580 notices? 24 Α. It is not, no. The Lower Rio Grande 25 adjudication staff are analyzing those.

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Q. Okay. And to the extent that those acres that are claiming 5.5 acre-feet per acre are in OWMAN plans then we can agree that those are pooled volumes that are averaged over portions or all of that OWMAN acreage; is that correct?

- A. I'm sorry. I didn't catch that first part. Can you restate, Mr. Dubois?
- Q. I'm going to try. I'm confusing myself with my own question. Let me back up one step first, though. The 50,000 acres is something on the order of two-thirds of all of the irrigated acreage, maybe a little less than two-thirds, of all the irrigated acreage in the LRG; is that right?
 - A. I think that's approximately true.
- Q. And that -- and I -- I used it as an approximation.
- So OWMAN -- the OWMAN program allows a pooling or averaging of -- of total pumping over some 53,000 acres within the Lower Rio Grande; is that correct?
 - A. That's accurate.
- Q. Okay. If there's an over diversion by OWMAN participant, they cannot only average their diversions over a geographic area but can also average those maximum volumes over at least a two-year period; isn't

that correct?

A. Well, we try -- we try to have those over diversions repaid within one year after the over diversion occurred. So if that's the time frame you're referring to, then yes.

- Q. Okay.
- A. So an over diversion in year one, repayment in year two.
- Q. Okay. So they're averaging not only across geography but across a two-year time period, as well?
- A. Well, the averaging would occur in one year, and the repayment would occur in another year.
- Q. Well, the two -- the average of those two years then is -- is a two-year average. If you're over diverting by a hundred -- let's say you've got a thousand acre-feet to play with. In year one, you divert 1,100. As I understand what you're saying, in year two, they would only be able to divert 900?
 - A. Correct.
- Q. So the total diversion for the two years is the maximum 2,000, so you're averaging it over two years, correct?
- A. Generally, I don't -- we don't look at it that way when we're doing over diversions because I don't say 2,000 over two years.

1 Q. All right.

- A. When we're doing the accounting.
- Q. Now, in addition to -- in addition to reducing their diversions in the following year, farmers can also go out and -- and lease someone else's unused permitted groundwater to cover their over diversion; isn't that also true?
 - A. That's correct.
 - Q. And how does that work?
- A. It would initiate -- go out and find a water right that's -- that's eligible, you know, a valid existing water right. They'll execute a lease agreement between them. They'll come into us and file an application in which to do that temporary lease and change place of use for a period of, it could be -- there's different time frames for leases, right. It could be a year. It could be five. It could be ten, 20. It just depends on the arrangement between those two water right owners.
- Q. Okay. And can you -- can you -- if someone is over diverting in 2021, can they get that lease for 2021 or does that necessarily apply only to a lease for the following year's water?
- A. They -- they can secure it for 2021 so long as they can prove and we can verify that that water

1 went unused. 2 So that effectively allows yet a Q. Okay. 3 further expansion of geographic averaging to add 4 additional farms sort of on the fly? 5 Α. To account for water that was unused in a 6 particular file. 7 Correct. So it's expanding the -- this Q. 8 expanding the geographical extent of the -- the land 9 over which the water is averaged, correct? 10 Α. Correct. 11 Okay. Let's talk about administration of Q. 12 over diversions of groundwater within the LRG. Can 13 you pull up 485, please? So you talked with Ms. 14 Thompson briefly about this. Do you recall that? 15 Α. Yes. 16 0. And these are the notices of over pumping for 17 2017, right? 18 Α. Yes. 19 Okay. And they were all sent out in February Q. 20 of 2018; is that correct? 21 This would have been the first notice. Α. 22 So to the extent that these were resolved, Q.

they were resolved in March of 2018 or later, correct?

That's accurate, yes, sir.

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Α.

Q.

Okay.

1 Seth, can you pull up New MR. DUBOIS: 2 Mexico 786? 3 (BY MR. DUBOIS) I believe you also talked to 0. 4 Ms. Thompson about this one. This is the -- the 5 repayment plan for Mr. Sing? Uh-huh. Yes, sir. 6 Α. 7 Q. And it's the over diversion repayment plan. 8 Excuse me. And the resolution was that he changed the 9 place of use -- or a change of place of use was 10 approved for one of his other wells, and that was 11 approved in October of 2018, correct? Do you need to 12 see more pages of this to know? 13 Α. That would be helpful, yes. I don't think 14 it's --15 Ο. Certainly. Absolutely. 16 MR. DUBOIS: Is this a one-page 17 document? Oh, okay. All right. It may have been my 18 own investigation, and I may have failed to bring that 19 into the case so my apologies. 20 (BY MR. DUBOIS) But he reconciled it by doing 0. 21 a change of one of his other water rights? 22 That's correct. He filed an application. Α. 23 Okay. And that was resolved later in 2018; 0. 24 is that correct? 25 Α. The issuance of the permit would have been at

1	a later date, but I can't recall off the top of my
2	head what that date was.
3	Q. Okay. So in this situation, you're, again,
4	simply managing to the permit cap over a two-year
5	period, right?
6	A. Correct. So we accounted for the over
7	diversion at the end of 2017, and and had this plan
8	filed in the beginning of 2018.
9	Q. All right. So similarly, let's look at Las
LO	Cruces for a second. The New Mexico 875. This one
L1	was not admitted so we're just going to leave this one
L2	alone, I guess.
L3	MR. DUBOIS: I believe this has not been
L4	admitted, Your Honor.
L5	JUDGE MELLOY: Let me look here. You're
L6	correct.
L7	MR. DUBOIS: Okay.
L8	JUDGE MELLOY: Unless unless it was
L9	admitted during Ms. Thompson's direct examination, but
20	it wasn't admitted at the start.
21	MS. THOMPSON: It was not. We just
22	double-checked. It was not.
23	MR. DUBOIS: Okay. Thank you.
24	MS. THOMPSON: Sure.
25	MP DIIBOIS. Thank you Mg Thompson

You know, this falls under the beating the dead horse.

- Q. (BY MR. DUBOIS) Let's talk about potential administration of -- of a call. We discussed earlier that under the -- the authority that you've been granted under 431, 6C on Page 3 of New Mexico 431.

 And under this, under 6C, as the water master for the Lower Rio Grande, you don't have the authority to determine whether groundwater users causing injury to senior water rights; is that right?
 - A. Outside of a priority call, no.
- Q. Okay. But the power -- the power to issue that priority call is limited to the state engineer; is that right?
- A. The state engineer and then, you know, somebody could request, of course. A senior could request.
- Q. A senior could request, but simply a request from the senior doesn't trigger priority administration, does it?
 - A. It does not.

- Q. So the power to determine whether there will be a call is limited to the state engineer; is that right?
- A. I think that's correct, yes.

1 And to your knowledge, the state engineer has Q. 2 never determined whether any groundwater user is 3 causing injury to senior water rights in the Lower Rio 4 Grande, right? 5 That's correct, as far as I know. 6 And he makes that determination strictly 0. 7 under state law without regard to delivery to Texas; 8 is that right? 9 Α. I don't know the answer to that question. 10 0. Okay. And the state engineer also made the 11 determination of when to declare a basin -- to declare 12 a basin, correct? 13 Α. Correct. 14 So the state engineer defines when he is --0. 15 has the -- he -- the declaration defines when he takes 16 jurisdiction over the management of the basin, right? 17 That's consistent with what I testified, yes. Α. 18 Okay. Yeah, it is. And it's the state Q. 19 engineer who determines -- it's the policies of the 20 state engineer to decide whether or not the 21 groundwater rights developed before basin closure will 22 be administered in priority, right? 23 So your -- your question was it's the policy Α. 24 of the state engineer?

It's the policies of the state engineer that

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1 decide whether or not the groundwater rights developed 2 before the basin declaration will be administered in 3 priority, right? 4 Α. I think so, subject to a call. 5 And to your knowledge, it's the policies of 0. 6 the state engineer that define the degree of impact on 7 the surface flow that will not be administered for 8 purposes of the Compact; is that correct? 9 Α. Again, Mr. Dubois, can you restate that one? 10 0. Sure. 11 Got away from me. Α. 12 To your knowledge, it's the policies of the Q. 13 state engineer that define the degree of impact on the 14 surface flows that will or will not be administered 15 for purposes of the Compact; is that correct? 16 Α. Subject to a priority call or request, I 17 think generally that's my understanding. 18 Q. Okay. So the answer is yes. Okay. Ιf 19 there's --20 I did object because he MS. THOMPSON: 21 then said the answer is yes, and I just wanted to have 22 that stricken since it mischaracterizes testimony. 23 JUDGE MELLOY: The witness's answer will 24 stand. Strike the comment. Go ahead.

MR. DUBOIS:

That's fine, Your Honor.

Thank you.

- Q. (BY MR. DUBOIS) If there's a priority administration of groundwater in the Lower Rio Grande sub basin in District 4, if you will, the water master for the Lower Rio Grande will be responsible for that administration, correct?
 - A. That's correct.
- Q. So you would be responsible for enforcement of my curtailment; is that right?
 - A. That's correct.
- Q. And there's not a priority administration system in place to deal with intermingling of the ground and surface waters of New Mexico, is there?
- A. Well, I think we would -- we would base that determination or that process off of our -- our framework rules. So, I mean, the framework rules provides some guidance, which could be characterized as a process.
- Q. You don't have a policy or manual for dealing with the enforcement of -- of a priority administration in the intermingled ground and surface waters in New Mexico, do you?
 - A. Not that I've seen.
- Q. And you have no experience in dealing with the priority call in the Lower Rio Grande, do you?

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A. I've not had that experience, no, sir.

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- Q. Okay. Do you know of any water masters in
- New Mexico who have had experience with a priority call where it was both groundwater and surface water
- A. It's my understanding that there's been some basins where priority calls were, you know, getting
- close, and they're -- they're ground water surface
- water basins, but I think ultimately there was some
 - cooperation amongst the water users in some shortage
- sharing agreements that headed that off. So if it's
 - -- it's not strict priority, but I think there was
 - some cooperation there.

the parties.

- Q. But that's a voluntary program; that's not something by the State, correct?
- A. Under -- well, in those specific instances,

 I'm not sure, but under the framework rules, we could

 incorporate some sort of voluntary measure in terms of

 alternative administration, if it's agreed upon by all
- Q. So going back to my original question, do you know of any water masters in New Mexico who have experience with administering a priority call where both groundwater and surface water are involved?
 - A. Again, not a strict priority, but I think

1 there's some instances where there were --2 Where there was a voluntary agreement? 0. 3 Α. There was -- they were preparing for that, 4 and they negotiated, yeah, voluntary agreement. 5 Q. All right. But that's not the same thing as 6 administering priority call, is it? 7 Well, I'm not sure I necessarily agree with 8 I think within the framework rules, there's that. 9 provisions for alternative administration. So through 10 the call made, there's the potential for alternative 11 administration, and those could be incorporated, those 12 agreements. So is that a priority administration? 13 think that's -- it's a little difficult to say. 14 I think you've answered my question. 15 MR. DUBOIS: And, yes, Your Honor, I'm 16 going to try and finish by 4:00. 17 JUDGE MELLOY: That's 5:00 our time. 18 0. 19 20 so to speak. You're familiar with offsets and how

- (BY MR. DUBOIS) A few random questions about administration, Mr. Serrano. Coming from off screen, that works for groundwater -- for new groundwater permits; is that correct?
 - Generally, yes, sir. Α.

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Okay. Does New Mexico allow the use of Q. groundwater to -- to effectuate an offset?

1	A. Let me think. I think there's discharge
2	credits, you know, for instance, through wastewater
3	treatment facilities, which are derived from
4	groundwater. I think in that context, the answer is
5	yes.
6	Q. Can pre-basin declaration groundwater rights
7	be used as offsets?
8	A. I'm not sure. And it's been my experience, I
9	haven't seen that, but I'm not sure.
10	Q. Okay. Fair enough. That's why I'm asking.
11	I'm not sure either. I'm looking for the answer.
12	Are you familiar with the pending
13	applications for new groundwater appropriations in the
14	Palomas area?
15	A. I've I've seen a few of them, yes, sir.
16	Q. And is your office involved in processing
17	those applications?
18	A. Yes. The water rights specialist in that
19	Lower Rio Grande group are reviewing those.
20	Q. And does the Palomas sub basin affect the
21	flow of the Rio Grande?
22	A. It's a tributary. You know, it hardly ever
23	runs. I'm not sure that it effectuates the flow.
24	Q. If the Palomas is running, does that
25	contribute to the Rio Grande?

1	A. It doesn't always get there in my experience.
2	Q. Is the Palomas a tributary of the Rio Grande?
3	A. It is, yes, sir.
4	Q. Does it get there sometimes?
5	A. On you know, on very rare occasions and
6	flood events, you know, flash flooding.
7	Q. Does the underflow of the Palomas reach the
8	Rio Grande?
9	A. You know
10	MS. THOMPSON: Objection, Your Honor,
11	this calls for a technical evaluation.
12	MR. DUBOIS: Fair enough.
13	JUDGE MELLOY: I'll sustain that.
14	MR. DUBOIS: Seth, can you pull up New
15	Mexico 758? Page 2. And can you pull out the
16	second-to-last paragraph, please? Thank you.
17	Q. (BY MR. DUBOIS) Do you remember discussing
18	this exhibit with Ms. Thompson? Do we need to go back
19	a page? I'm sorry. I went faster than I should have.
20	A. Yes, sir, please.
21	MR. DUBOIS: Yeah. Could you go back to
22	Page 1? I'm sorry.
23	Q. (BY MR. DUBOIS) Do you recognize this
24	memorandum?
25	A. I'm not sure this is the one that we were

1 discussing. 2 That's okay. It wasn't, but do you recognize Q. 3 this memorandum? 4 Α. Yes, I do. 5 Okay. And what is it? 0. 6 This is a memorandum from me to the district Α. 7 manager summarizing the current status of the Faykus 8 River Pump issue. 9 Okay. The date of this is December 18th of Q. 19? 10 11 Α. That's correct. 12 All right. And this is a memo from you, Q. 13 right? 14 Α. Yes, it is. 15 Q. Okay. Now, can we go to Page 2, please. 16 JUDGE MELLOY: What's the exhibit 17 number? 18 MR. DUBOIS: Oh, I'm sorry. It's 758. 19 JUDGE MELLOY: Okay. 20 MR. DUBOIS: Down at the bottom, Your 21 Honor, it's NM-0758, and we're --22 JUDGE MELLOY: My screen always cuts off 23 about the bottom. 24 MR. DUBOIS: Oh, I'm sorry. All right. 25 So it's 758, and we're going to go to Page 2.

JUDGE MELLOY: Just for whatever it's worth, that's not in evidence. I don't know if you want it.

MR. DUBOIS: No, I know. I know. I think we're probably going to put it in evidence, but that's okay.

Bring out the second-to-the-last paragraph.

- Q. (BY MR. DUBOIS) And second-to-last paragraph, you state that, "The illegal diversion of Rio Grande surface water at this location are particularly alarming due to the fact that the release from Elephant Butte reservoir are earmarked for Rio Grande Project beneficiaries and a few post-project users that have a legal right and entitlement to these waters." Then you say, "Any interception of these released surface waters directly and immediately impairs senior users and that in and of itself is contrary to state law." Do you see that?
 - A. I see that, yes, sir.
- Q. Is it your opinion -- is it still your opinion that any interception of the released surface waters from the Rio Grande Project immediately impairs senior users and is, in fact, contrary to state law?
 - A. When -- when a situation like this occurs and

1 somebody is pulling water directly out of the river, 2 yes, sir. 3 Okay. So anything that pulls water directly 0. 4 out of the river would be an immediate impairment to 5 senior water users? 6 With the exception of those that I identified Α. 7 here, correct. 8 0. Okay. 9 MR. DUBOIS: Your Honor, I'd move to 10 admit New Mexico 758. 11 JUDGE MELLOY: Any objection? 12 MS. THOMPSON: No objection. 13 JUDGE MELLOY: 758 is admitted. 14 MR. DUBOIS: Give me a second to flip 15 through my notes, Your Honor. I'm sorry. I have no 16 further questions, Your Honor, and I made it before 17 4:00. 18 All right. Very good. JUDGE MELLOY: 19 Ms. Thompson, what do you have? 20 MS. THOMPSON: Just a couple of 21 questions, Your Honor. 22 JUDGE MELLOY: Go ahead. 23 REDIRECT EXAMINATION 24 BY MS. THOMPSON: 25 Mr. Serrano, the term out of priority you 0.

1 were asked about, that's defined in New Mexico 2 Administrative Code; isn't that right? 3 Α. I believe that's the case, yes, ma'am. 4 0. And a water right can only be considered out 5 of priority when a priority call has been made; isn't 6 that right? 7 Α. I believe that's what I testified, yes, 8 ma'am. 9 Water masters administer the water rights to 0. 10 enforce the permit conditions; isn't that right? 11 That's one of the aspects, yes, ma'am. Α. Yes. 12 And who does the evaluations of impacts on Q. 13 surface water flows when applications are filed? 14 that the water master group? 15 Α. It is not. 16 Q. Which group is that? 17 The water rights division of the Lower Rio Α. 18 Grande. 19 Q. And those water evaluations that look at 20 impacts on surface water flows happen for every 21 application that gets filed; isn't that right? 22 Α. It's my understanding that some sort of 23 determination is made with regard to those aspects. 24 Q. Has there ever been a priority call for the 25 Project water right in the Lower Rio Grande?

1 Not that I'm aware of. Α. 2 You were asked earlier tried to -- I think 0. 3 you were attempted to be impeached on a question. You 4 were asked at your deposition of what do you do to 5 implement the terms of the Compact. That question, when it's referring to implementing the terms of the 6 7 Compact, did you understand that to mean something 8 specific to accounting or implementation specific to 9 Compact terms? 10 MR. GOLDSBERRY: Objection; leading. 11 JUDGE MELLOY: I'll sustain that. 12 Q. (BY MS. THOMPSON) What did you understand 13 that question to mean? 14 To refer back to specific duties of our 15 personnel that work on Compact issues in the 16 Interstate Stream Commission. 17 0. And that's not part of the water master's 18 role or responsibilities; is that right? 19 Α. That's correct. 20 And let me just check my notes here. Q. 21 MS. THOMPSON: I have no further 22 questions, Your Honor. 23 MR. DUBOIS: Well done, Ms. Thompson. 24 5:00 exactly. 25 JUDGE MELLOY: Mr. Goldsberry, anything

1 further? 2 RECROSS EXAMINATION 3 BY MR. GOLDSBERRY: 4 Q. You had an opportunity to read your 5 deposition in this case, didn't you? 6 Α. Yes. 7 Q. Did you make any changes to the answer that 8 you gave to the question I wrote -- that I read? 9 I made a few changes to that -- those texts, 10 but I don't think it was specific to the context of 11 your question. 12 MR. GOLDSBERRY: Thank you. Nothing 13 further, Your Honor. 14 JUDGE MELLOY: Mr. Dubois? 15 MR. DUBOIS: Nothing further, Your 16 Honor. Thank you. 17 JUDGE MELLOY: I didn't give you a 18 chance, Mr. Hartman. Do you have anything? 19 MR. HARTMAN: No, Your Honor, I don't. 20 Thank you. 21 JUDGE MELLOY: Thank you. Well, very 22 good, everyone. Mr. Serrano, you're, I think, done. 23 You're excused. We appreciate your testimony, and 24 you're free to go. Thank you very much. 25 THE WITNESS: Thank you.

1 JUDGE MELLOY: All right, everyone. 2 there anything we need to talk about before we adjourn 3 for the evening? 4 MS. THOMPSON: Not from New Mexico. 5 JUDGE MELLOY: If not, I would ask 6 Ms. Klahn to be available. I assume she'll be 7 available in the morning, and we'll talk first thing 8 in the morning about that offer of the deposition 9 excerpt, and I'll take a look at it over the evening, 10 and we'll talk about that first thing. All right? 11 MS. THOMPSON: Your Honor? 12 JUDGE MELLOY: Yes. 13 MS. THOMPSON: I apologize. I just 14 wanted to make one statement just about -- just to 15 refer you because that issue did come up in the 16 pretrial conference statement for New Mexico filed 17 August 25th, Appendix D, Sections C and D. I just 18 wanted to refer you that that's where our objections 19 had been stated. Again, that's August 25th, 2021, 20 pretrial conference statement, Appendix D, Sections C 21 and D. 22 JUDGE MELLOY: Appendix D, Sections C 23 and D? 2.4 MS. THOMPSON: That's correct, Your 25 Honor.

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                   JUDGE MELLOY: All right. I'll take a
 2
     look at that.
 3
                   MS. THOMPSON:
                                   Thank you.
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                   JUDGE MELLOY: All right. Thank you.
 5
     Anything else?
 6
                   MR. DUBOIS:
                                 No, Your Honor.
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                   JUDGE MELLOY: If not, we'll see
 8
     everybody in the morning. Thank you.
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                    (The proceedings adjourned at 5:02 p.m.)
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1 CERTIFICATE 2 3 I, HEATHER L. GARZA, a Certified 4 Shorthand Reporter in and for the State of Texas, do 5 hereby certify that the facts as stated by me in the 6 caption hereto are true; that the foregoing pages 7 comprise a true, complete and correct transcript of the proceedings had at the time of the hearing. 8 9 I further certify that I am not, in any 10 capacity, a regular employee of any of the parties in 11 whose behalf this status hearing is taken, nor in the 12 regular employ of any of the attorneys; and I certify 13 that I am not interested in the cause, nor of kin or 14 counsel to any of the parties. 15 16 GIVEN UNDER MY HAND AND SEAL OF 17 on this, the 16th day of December, 2021. 18 19 HEATHER L. GARZA, CSR, RPR, CRR 2.0 Certification No.: 8262 Expiration Date: 04-30-22 21 22 23 Worldwide Court Reporters, Inc. Firm Registration No. 223 24 3000 Weslayan, Suite 235 Houston, TX 77027

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A a.m 1:12	115:14 135:4,5	106:5 108:9	active 19:23	157 11 160 01
	· ·	100.5 100.5	active 17.23	157:11 160:21
	137:8 166:11	109:9 124:24	121:22 125:21	184:3 191:10
ability 143:23	166:20 168:4	139:19 147:19	164:13,14	200:4
152:10	199:2 215:8	162:4 179:18	165:4 171:3	address 60:1
able 44:8 70:13	accounts 48:5	179:19 194:11	actively 65:17	89:14 100:13
168:18 198:18	96:6,7 106:13	194:17 195:21	144:9 186:2	117:14 134:12
above-entitled	115:3 135:5	197:2 198:16	actively-meter	addressed
1:11	accuracy 30:14	acre-foot 66:4	65:14 81:22	104:12 113:18
Absolutely	77:16,21,25	98:6 109:9	164:7,11	134:11
140:4 178:14	86:11	194:19	activities 30:3	addresses
188:23 201:15	accurate 22:22	acreage 58:23	56:17 72:19	103:13
abstract 186:25	28:1 59:9 81:3	72:3,5 94:4	121:5 128:6	addressing 6:19
abstracting	87:5 98:15	112:11 115:10	135:3 137:3	28:14,16
27:13,19,23	147:9,10	123:22 124:10	150:22 151:13	adequate 167:6
54:6 160:24	149:16 167:17	124:23 148:1	151:14,17,19	adhere 189:17
abstracts 44:2	185:22 187:21	155:13 168:23	157:9,11,13	adherence
acceptable	193:19,20	180:18,19,25	166:21 169:9	102:21
58:12 59:6,7	197:21 200:24	181:2 187:20	169:10	adheres 75:25
63:20 65:4	accurately 78:18	190:15 191:4,7	activity 59:14	adjacent 27:1
77:7,8,13	166:20	193:18,21	61:13 124:15	adjourn 217:2
84:14 106:10	acequias 153:12	194:14,15	151:23 160:22	adjourned 218:9
accepted 37:6	160:7	196:20 197:5	166:6 169:4	adjudicated
190:23	achieve 58:6,9	197:11,13	actual 46:12	72:3 91:10
access 23:23	achieved 65:7	acres 35:16,19	76:13 163:4	adjudicating
69:18 70:1	102:7,19	35:20,23 72:3	183:23 185:21	95:5
72:24 73:3,17	achieving 58:14	94:5,8 97:5	adapted 171:21	adjudication
73:18 114:11	107:13 137:5	111:2 123:24	adaptive 171:15	46:2 92:20
accessible 84:5	acquire 16:8	124:25 125:4	add 46:19 62:14	93:7 94:15
accompanied	87:3 166:7	126:10 139:17	97:7 145:23	117:13 132:16
133:8	168:2,6,10 acquired 42:15	139:18,19	146:15 148:20 200:3	143:13 162:5 174:20 179:8
accompanying	acquired 42.13 acre 91:13 92:13	150:4,13,15 152:14 155:16	added 135:25	194:5 196:12
101:23 106:4	92:18 93:23	168:24 180:24	adding 115:10	194:3 196:12
accomplish	94:7,10,25	185:15,16,19	addition 37:8	adjust 98:20
153:17	95:4 98:21	186:6 189:14	71:11 77:20	99:1 109:24
account 96:15	162:5 191:10	190:17,18,20	160:1,6 193:11	adjusted 98:25
107:16 115:4,5	194:12,17,19	196:4,15,17	199:3,3	adjusts 96:6
142:16 147:16	194.12,17,19	190.4,13,17	additional 6:2	administer 20:4
200:5	acre-feet 33:1,4	action 87:21	14:19 18:4	22:15 34:4,8
accounted 36:23 142:3 202:6	33:11,14,17	88:13,18 90:16	19:25 24:22	34:11,14 37:1
accounting 60:6	35:21,25 45:15	132:14	36:10,18 46:6	91:21 110:13
60:6 73:4,22	46:17 49:19	actions 23:10	51:3,4 60:18	143:23 144:9
75:11 87:6	66:6,12 72:8	29:4 87:10	60:20 65:15	170:16 175:13
96:20 98:15	91:13 92:13,18	89:10 90:14	82:16 85:2	175:19,24
106:7 109:24	93:23 94:7,10	104:11 122:25	101:25 125:13	176:3 177:7
113:3,12 115:1	94:25 95:4	124:15,17,18	126:22 134:16	214:9
113.3,12 113.1	98:9,11,21	137:23	151:6,11,24	administered

				Page ZZI
204:22 205:2,7	12:18,19,20,22	112:21,21	41:24 48:8	182:18,24
205:14	12:23,24 16:23	128:10 207:11	66:1 73:18	189:13 195:2
administering	25:19 31:14	208:12	77:9 78:10	amounts 31:7
25:10 193:14	39:8 41:3 45:5	agrees 53:25	91:3,12 93:13	91:20,23 96:19
207:23 208:6	68:13 74:2	Agriculture	94:24 116:15	96:24 168:20
administers	76:21 80:3	141:17	126:25 161:17	175:20 194:12
173:20	82:1 88:8	Agriculture's	173:14,25	Ana 20:22 21:17
administrable	96:10 105:22	142:21	allowing 92:17	38:13 39:17,23
109:6	108:19 111:9	ahead 8:15	allows 197:17	40:12 142:2,16
administration	120:10 121:16	104:9,24	200:2	analysis 52:12
21:19,23 27:4	134:7,24	104.9,24	alternate 36:8	94:2,5,6
31:2 41:16	· · · · · · · · · · · · · · · · · · ·	195:18 205:24	36:10 191:15	140:20,24
	202:11,14,19			
82:17,20,23	202:20 213:13	213:22	alternative 61:4	141:3 142:23
83:2 104:12,22	ads 61:25	aired 62:1	125:13 126:22	154:7 182:4
144:4,5,23	advise 10:23	Alanis 24:24	165:22 207:19	analyzed 94:8
171:4 174:6	59:13 163:21	alarming 212:12	208:9,10	analyzing
192:16 200:11	advising 131:15	alert 6:16	ALU 87:8 89:4	181:10,11
203:4,20 206:3	advisors 160:4	alerting 117:25	amend 56:5	196:25
206:6,11,21	affect 209:20	allegations	amended 5:8 6:1	and- 2:7
207:19 208:9	affirm 10:4	117:9 120:13	55:25 56:10	and/or 39:1,3
208:11,12,19	affix 63:21	alleged 116:14	60:14,19 61:15	49:11 55:13
administrative	afield 83:4	131:21	115:8,11,12	65:24 89:20
6:9 14:16,17	afternoon 83:6	allotment 36:25	amendment	Animas 18:9,12
14:20 15:1	agency 49:22	73:8 91:18	5:16 56:8	25:12 27:11
18:4,5,9 22:8	157:7	95:19 96:5	America 32:15	annual 17:6,9
25:25 27:9	ago 7:15	97:3,4 125:17	amount 35:24	23:25 31:8,13
35:7 38:12	agree 22:22 48:7	139:10,14,15	36:3 43:7	32:21 49:18
64:19,21,22	89:11 134:15	146:11 147:20	46:16 47:21	70:24 106:11
88:19 101:22	144:10 154:12	147:21,24	49:16 58:23	106:25 134:23
102:2 110:19	162:23 167:7	148:2,6,7,22	66:8,10,19,20	135:1,16 136:8
111:21 131:14	174:7,19 191:8	149:3,22 150:3	71:22 72:6	138:3,7,11,14
137:16 152:21	192:13 193:7	150:6,7,12,19	78:13 79:10	138:15,21
162:16 214:2	197:3 208:7	allotments 96:4	89:20 90:9	139:3,5 141:10
admit 12:2 45:1	agreed 132:24	allow 95:3 100:8	91:8,9,16	141:11 143:4,8
81:23 85:23	194:6 207:19	109:23,25	92:22 93:1	143:16,18,21
86:4 88:2	agreed-upon	128:11 153:13	95:7,24 97:1,8	145:20 146:12
100:4,9 103:24	112:5 114:2	166:18,22	97:11 101:19	146:16 149:2
104:4 105:14	agreement 6:22	187:11 191:2	106:5 107:8	155:19 159:24
118:20,24	7:11 8:6 9:8	208:24	108:9 111:1	161:10 164:23
120:7 121:13	92:10 93:13	allowable 98:5	112:11 130:1	answer 169:15
130:17,23	109:20 111:20	99:7	138:19 141:22	169:17,20
132:7,11 134:4	112:3,22	allowance 92:12	146:2,21,24	195:15,18
213:10	140:17 153:2	98:21 194:10	147:1 148:21	204:9 205:18
admitted 11:8	153:18 189:4,4	allowances	161:16 162:3	205:21,23
11:12,14,16,17	199:13 208:2,4	153:13	166:13 167:6	209:4,11 216:7
12:8,9,11,12	agreements	allowed 10:23	168:5,19	answered
12:13,15,16,17	22:15 112:4,19	19:25 37:17,21	179:22 182:9	208:14
	<u> </u>	<u> </u>	<u> </u>	<u> </u>

9:19	applies 50:17	approved 36:14	136:9 171:14	160:6,10
anybody 11:20	193:9 194:12	37:10 43:11,15	173:20 209:10	attended 15:8
41:21	apply 38:23	43:22 46:23	aspect 145:25	15:14 160:3
anymore 74:22	41:22,23 51:2	53:22 54:3,5	aspects 214:11	attending 148:4
apologies 201:19	154:5 180:9	54:12 93:18	214:23	attention 119:13
apologize 127:3	184:7 189:14	94:6,21 135:24	asserting 38:19	attorneys 8:7
159:20 217:13	199:22	147:25 148:3	41:20	94:15,16
appear 115:10	appoint 24:13	193:13 201:10	assessed 89:20	219:12
appearance 4:6	appointed	201:11	139:18	attributable
4:10,12	170:16	approximately	assessment 37:9	192:1
appearing 4:5	appointment	17:15 28:24	assessments	August 217:17
appears 40:7	20:3,24	35:3,15,18	125:21	217:19
63:4 103:7	apportion 20:21	47:15 65:13,16	assign 51:16	authorities
Appendix	171:2,8,9	93:8,19,24	assigned 68:22	20:12
217:17,20,22	apportionment	94:5 125:4	assist 24:6	authority 14:11
applicable 23:5	14:2 171:10	155:15 185:18	155:10	20:1,15 38:20
29:2 55:15	appreciate	185:23 196:10	assistant 16:4,9	41:20 203:5,8
169:11	216:23	197:14	23:15 24:6,20	authorization
applicant 51:19	approaches	approximation	24:22 28:20	125:19
51:20	97:25	197:16	29:6 64:12	authorized
application 50:2	appropriate	appurtenant	67:24 74:16	109:15 126:9
50:7,16,20,22	9:10 22:20	55:23	75:17 87:22	139:17
51:7,10,12,16	38:22 102:17	April 67:11	89:1 156:12,17	automatic
52:2,4,8,23,24	112:7 114:25	83:24 107:12	156:20,22	187:13
53:7,20 54:17	appropriated	113:1	157:4 158:20	automatically
109:11,12,13	172:18 173:3	archive 54:9	assistants 28:19	96:6 189:8
109:16 153:20	174:9 175:10	archiving 28:2	associated 59:24	availability
153:22 154:4	175:15 176:1	area 17:12 32:14	68:4 71:12	146:20
181:13 189:18	appropriation	39:14 40:11	72:3,6,7 75:23	available 10:20
189:19 191:18	46:12,17	52:16 53:14	106:4 107:9	10:24 16:2
192:11,11	appropriations	126:24 197:24	109:17 122:21	59:10 73:7
199:14 201:22	37:15,16,21	209:14	164:8 166:20	90:7,23 91:16
214:21	39:25 44:12	areas 20:8 31:25	168:6,20 187:3	139:10,19,25
applications	46:9 47:18	arisen 151:11	association 21:7	140:6,13 146:1
28:10 38:24	209:13	arose 151:11	assume 38:17	147:2 148:18
39:3 48:12,13	appropriator	arrangement	95:20 217:6	153:4,8 155:5
48:16,17,21,23	173:15 174:1	199:18	assuming 100:8	155:12 176:6,8
48:24,25 49:7	approvable	arrow 64:2	assumptions	195:1 217:6,7
49:8,10,11	188:9	artistic 18:19	182:23 183:20	average 35:24
50:4,10 51:13	approval 42:9	ascertain 61:12	attached 40:14	54:25 111:1
54:12,21,23	42:23 44:10	ascertainable	attachment	158:3,6 163:24
72:22,25	45:22 46:14	39:23	53:23	165:9 189:11
181:13 183:7	52:3 53:23	aside 65:5	attempt 31:18	197:23,24
209:13,17	154:8 176:4	asked 7:14 14:22	175:8	198:13,14
214:13	186:16 187:13	169:5,18 177:2	attempted 215:3	averaged 197:4
applied 16:3,12	188:18	214:1 215:2,4	attend 159:24	200:9
98:18 192:24	approve 28:12	asking 88:21	159:25 160:2,5	averages 68:8

				Page 223
averaging 186:4	44:6 47:4 48:6	67:11 98:6	110:25 114:18	briefly 15:4 30:7
197:18 198:9	49:24 53:1	150:19 161:10	124:16 165:3	75:4 101:7
198:11,21	78:15 79:6	163:7,10,11	165:15 168:12	107:3 141:14
200:3	94:6 97:1,9	186:3 187:14	177:24	200:14
awarded 194:16	98:23 143:20	beating 203:1	black 17:24	bring 201:18
195:11	150:24 183:16	beginning 5:11	139:11 147:4	212:7
aware 92:13	183:22 194:4	202:8	148:20	Broadway 2:18
116:13,18	195:25	behalf 219:11	blanked 194:8	broken 24:19
134:18,21	baseline 42:21	believe 12:1 20:5	blend 77:3	32:5 59:11
152:16 158:16	93:25	32:12,18 35:10	blitz 86:21 167:1	60:25 84:1
171:15,18	basic 29:16	36:22 48:3	167:9,16	brought 119:13
176:24 177:3	56:23 93:10	82:9 116:21	blue 107:8	building 80:17
194:18 215:1	128:20 140:19	134:23 144:3	139:13 147:19	built 97:22
	191:20,20	149:19,21	148:20	bulk 156:25
B	basically 37:5	156:10 158:5	blurry 114:18	bullet 14:14,15
B 22:11	40:21 45:20	158:19 159:22	board 147:25	53:10,10 83:24
bachelor 15:14	92:20 132:17	165:16,19	148:3 160:1	bulletin 141:17
back 5:10,21	186:5 194:12	169:8 170:14	Bonita 35:10,13	142:21
6:25 24:8 26:7	basin 18:2,5,7,9	171:24 172:1	124:22 125:1,2	bullets 83:19
28:18 29:4	18:11,12 27:3	175:18 184:1	book 136:10,13	bumped 66:5
30:24 46:6	27:4,5,5,8,8,9	185:1,4 186:14	books 10:20	burden 93:20
52:2 58:18	27:11 28:15	191:22 196:2,3	BOR 120:16	94:9
67:7 69:22	31:2,5,16 34:9	201:3 202:13	bother 184:23	bureau 22:18
70:4,16 71:16	34:15 35:11	214:3,7	bottom 20:17	27:14 44:2
75:1 78:23,25	37:24 38:4,11	belong 82:12	24:9 29:16	49:21 54:6
80:21 89:23	38:12,16,19,21	belonging 109:7	30:18 46:11	66:12 118:7,12
96:22 100:22	39:15,22 40:5	Benavides 24:22	53:4,16 70:16	118:16 122:2
117:3 128:13	40:12,20,24	beneficial 46:21	77:6,23 84:8	134:10 160:24
130:7 141:21	41:5,6,17,21	47:25 91:8	89:16,23 97:11	187:1
144:25 145:2	42:14 44:5	92:22 128:12	115:7 136:6	busy 167:23
155:19 156:8	47:13 48:9	141:22 172:17	211:20,23	Butte 17:18 21:5
166:15 197:9	51:14,15 52:3	173:2 180:11	boundaries	22:19 34:1
207:21 210:18	66:15,21	beneficiaries	17:19 18:17	36:23 37:7,11
210:21 215:14	113:15 123:6,6	212:14	26:1 39:22	56:10 95:18
background	123:7,15,16,20	benefit 111:11	40:5	129:11 159:18
15:4 91:3	143:12,12,14	Bert 117:16	boundary 16:20	212:13
backyard	152:21 174:8	better 18:20	17:20 122:3	
168:10	174:25 175:10	74:24 136:19	128:3 185:8	<u>C</u>
ball 163:22	176:14 194:24	136:19	bounded 17:22	C 2:1 22:12
ballpark 161:12	195:8 196:5	beyond 123:10	box 50:13,18,25	77:15 172:4
banks 132:25	204:11,12,16	159:19 161:17	51:3	217:17,20,22
Barroll 7:10	204:21 205:2	182:2,9	boxes 50:12	Caballo 35:2,9
49:21 66:12	206:4 209:20	big 142:6 179:18	108:25	36:6 120:20
Barroll's 9:2,5	basins 18:2,4	bit 40:22 65:20	break 83:6,6	calculate 73:12
base 17:17 87:6	25:11 27:12	67:15 86:5	138:18 143:11	139:14 175:8
206:14	153:15 207:7,9	90:19 91:2	156:3,4,4	calculating
based 22:5 35:7	basis 48:17 57:6	104:6 110:24	breaks 73:7	163:14
L	1	1	1	1

calculation	carry 22:7 54:15	62:18,20	checks 76:4	closure 204:21
150:2	case 44:14 51:15	chance 35:20	Cheryl 5:4 27:7	code 14:17,17,20
calculations	72:1,4 82:7,12	78:24 216:18	chile 142:5,5,8	22:8 37:20
98:23 183:16	104:6 116:5,14	change 41:22	choose 102:14	214:2
calculator	132:14 153:21	48:20,23,24	chooses 102:12	Cody 24:24
148:25	158:25 167:22	49:2 50:3,10	189:3	Coleman 82:9
Calhoun 114:17	179:6 182:20	50:14,15,19	chronology	collect 8:15
California 2:5	201:19 214:3	51:7,9 52:4,7	88:12	23:13,18
142:7	216:5	52:23 53:2,21	CIR 194:6	122:20
call 7:20 9:23	cases 162:19	54:3,12,17,22	circumstances	collection 23:16
21:20 53:3	catch 197:6	61:16 67:15	44:10 66:25	86:12
96:18 152:18	categories 24:20	109:10,12	cities 18:22	collective 117:12
172:12,13	33:16 93:16	115:5 137:13	citizens 21:16	college 15:11,18
174:5 203:4,11	128:15,19,20	140:20 154:3	city 18:22,23	15:25
203:13,23	136:9 138:20	177:21 178:5,6	21:5 32:18	Colorado 1:6
205:4,16	139:1	181:13,17,24	33:8 51:20	2:10,14,16,18
206:25 207:4	categorize 31:18	182:7,11,14,14	68:18 159:21	2:19,23 4:3,25
207:23 208:6	135:5	182:20,21,25	civil 89:19 90:11	11:19,24,25
208:10 214:5	category 31:22	182:25 183:9	claim 92:17 93:1	12:4,5
214:24	32:3,9 45:14	183:14,15	claiming 197:2	column 27:7
called 34:19	49:6 123:16	199:15 201:9	claims 46:5	28:6 45:13
56:20,21 64:19	129:8,14,25	201:21	196:4	combination
76:1 97:20	142:5 154:2	changed 113:10	clarify 126:17	110:2 165:13
124:6	168:8	113:11 201:8	193:4	165:22
calling 39:9	Cathey 26:16,20	changes 36:1	clarifying 56:6	combine 102:13
callout 60:4	Cathey's 26:17	38:22,25 48:21	60:21	152:22,24
107:11 108:25	cause 39:1 78:11	49:3 50:6	classes 15:11	153:20,22,23
115:6	219:13	52:21 54:5	clean 29:18	154:1
calls 10:1 143:25	caused 68:11	65:18 91:17	clear 17:22 34:3	combined 91:14
207:7 210:11	76:7	115:13 178:11	46:3 51:6	95:11,14 96:1
canal 36:5,9	causing 22:14	181:11 183:6	86:10 98:4	96:14 97:14,15
canalization	172:6 203:9	216:7,9	124:13 149:7	106:6 114:16
128:4	204:3	characterizati	163:8 164:23	114:21 148:21
canals 126:24	certain 22:5	193:5	177:8 195:6	152:19 161:24
cancelled 188:25	certainly 104:25	characterized	clearer 178:1	166:13 190:1
candidate 16:5	134:12 201:15	206:17	195:20	192:21
16:13	CERTIFICATE	charged 14:1	clearly 32:24	come 27:23
cap 202:4	219:1	27:22 155:2	clerk 160:23	30:24 46:22
capability 11:1	Certification 3:9	chart 25:2,3,5	click 70:14,18	61:11 64:12,13
capacity 117:11	219:20	26:5,13 31:14	72:24	65:2 79:19
184:4,8 219:10	certified 1:13	31:18 33:3	clicked 71:13	91:23 99:8
Capitol 2:5	64:5,11 79:16	49:12 147:3	close 72:12,13	106:9 112:6
caption 39:13 41:3 219:6	219:3	148:10,12	97:24 155:21	114:11 116:7
	certify 219:5,9 219:12	149:2 check 51:3 62:5	196:19,19 207:8	166:15 178:18
captured 147:12 Carlos 24:21	cetera 10:25	69:3,7 215:20	closely 80:16	179:9 181:13 189:5 199:13
Carrillo 24:24	challenge 56:9	checking 196:22	closer 38:15	217:15
Ca111110 24:24	chanenge 30.9	checking 190:22	Cluser 30.13	417.13

comes 14:16	Company 71:20	comply 78:20	54:13,13 58:22	154:24 214:4
25:22 140:14	compared	88:20 101:20	67:19,20 73:1	consist 32:6,11
147:8 188:1	139:10 140:22	102:1 131:16	76:13 88:16	48:22
coming 43:7	comparing	132:21 189:25	116:2 154:16	consisted 33:6
61:19 64:8	30:14	component	176:3 179:11	33:11
65:20 77:21	comparison	95:17 118:9	188:18,19	consistent 89:12
208:19	137:13 146:9	161:23	189:17 214:10	102:8 148:13
command 74:21	compile 84:25	components	conduct 23:3	148:14 204:17
commands	86:23	69:20 95:15	76:14 77:25	consistently
74:14	complained	161:19,25	137:1	31:21 192:24
commencing	119:22,23	181:1	conducted 45:17	consistently-a
1:12	complaint	comprehensive	120:15 121:25	192:17
comment 205:24	116:14,19,21	122:20	conducting	consisting 33:18
comments 45:16	150:22	comprise 219:7	28:25 30:11	consists 31:23
commercial 21:7	complaints	comprised 93:9	169:10	33:7
32:10,18 33:12	122:1 151:24	concept 153:9	confer 8:18	constituents
65:15 67:13	152:3	184:20	conference	152:4
91:7	complete 8:12	concepts 184:21	217:16,20	construction
commercial-ty	39:5 58:6 81:3	concern 98:17	conferences	30:22 70:21
32:16	87:4 167:17	118:3	162:25	80:15
commingle	219:7	concerns 134:10	conferring 8:19	consume 67:4
153:20,22,24	completed 15:12	134:16	confirm 43:10	consumptive
154:1	completely	conclude 43:19	68:3 99:4	72:5 91:6
commission	106:15	46:25 53:11	163:19	contact 60:1
122:3 128:3	compliance	125:1	confirmed	64:11
140:18 160:4	14:25 23:5,10	concluded 22:3	186:14	contempt
169:3 189:25	29:1 43:4 58:5	concludes 21:22	conformance	132:23,24
215:16	58:6,10,12,13	concluding	68:7,8 76:3	content 136:16
commissioner	58:16 63:6,18	21:21 39:20,21	confusing 196:9	contents 136:20
119:5,6,11	63:24 64:8,13	conclusion	197:8	context 19:22
common 112:18	64:15,17,20,21	53:17,19 125:5	conjunction	174:4 176:11
commonly 34:18	64:23,25 65:2	143:20	76:25 77:2	192:12,12
50:19 69:21	65:2,7,7,8	conclusions	87:8 146:2	209:4 216:10
153:19	78:11,23 79:17	21:18 41:10	conjunctively	continually
communication	80:21,24,25	45:8,9 170:20	166:10	107:14 151:3
7:13 10:24	84:24 86:20	concrete 7:11	connect 92:5	continue 61:6
communicatio	87:7,12 88:18	concurrence	Consequences	129:21 143:16
8:10,11,15	88:22,24 89:4	52:3	18:23	continued 47:20
29:20	89:7,9 90:2,3	concurs 54:1	conservation	47:21 145:24
community	90:12 101:19	condition 59:5,8	189:20 191:19	189:5
15:11 153:12	102:9,10,18,21	164:15 175:19	consider 162:1	continuing 27:5
Compact 82:19	107:14 116:1	190:10 192:24	167:5	32:10
119:6,11 160:3	131:3,17,23,24	conditioned	consideration	continuous 59:9
169:1,7,12,20	132:2 137:3	39:4	13:4,5 53:11	contractors
169:22 171:10	164:24 167:12	conditions 23:7	Considerations	30:20 80:17
205:8,15 215:5	169:10	29:1 39:4 43:5	53:9	contrary 189:19
215:7,9,15	compliant 90:13	46:20 53:23	considered	191:19 212:19
L				

212:24	153:1 154:9,20	211:11 213:7	191:17 203:16	170:1
contribute	154:21,25	215:19 217:24	courses 15:12	cross-examine
142:18 209:25	155:9 156:12	219:7	court 1:1 6:16	9:19
control 22:20	156:13 158:8	correction 45:20	8:10 16:21	CRR 219:19
23:7 74:13	158:22 160:16	79:19	23:6 25:6	Cruces 13:23
170:22	160:17,20	correctly 30:2	45:12 48:11	17:24 18:24
controlled 74:24	161:11 162:13	138:24 147:23	63:9 65:10	21:6 32:4,19
cooperation	165:20,24,25	162:9	88:21 95:5	33:9 51:21
207:10,13	167:6 170:18	correlation	98:24 102:20	68:18 159:21
cooperative	170:25 171:6	140:1 146:19	102:20 131:18	202:10
140:17	171:12,13	corresponding	132:16,19,20	CSR 219:19
coordinate	172:8,19,20	146:3,21	132:22,23	culmination
22:17 71:9,10	173:4,5 174:3	Cortez 117:16	133:7 162:6	135:2
87:1 127:17	174:18,21	117:25 119:24	174:20 219:23	cumulative
copied 117:18	175:1,17,23	Cortez's 120:16	Court's 39:8	93:15 130:22
copies 28:3	176:3,9 177:11	counsel 7:13	cover 39:11	132:10 182:16
54:10	177:15,18	35:5 159:3,6	121:20 138:3	182:17 189:12
copy 54:8,9	178:21 180:1,5	162:9 219:14	199:6	193:16,18
136:3	180:9 181:2,3	count 155:15,17	covered 17:13	current 5:19
corner 18:7	181:19,25	counter 6:20 7:1	137:17,21,25	13:17 37:9
correct 7:7 12:3	182:7,14	7:19,24	138:3,7,8	60:8 66:3
17:7 18:18	183:15,20,21	counties 20:22	155:14 170:6	70:17 71:5
26:6 28:4,15	183:23,24	21:17 38:14	170:10	80:7 110:18
28:16 34:7,24	185:10,14,17	41:7 142:17	Craig 26:16	125:20 127:22
46:25 49:5	186:7,10,17	country 17:20	create 19:6	130:12,25
55:9 57:18	187:4,7,24	county 38:13	24:12 54:8	153:25 154:10
67:18 78:3	188:14 189:1,9	39:16,17,23	100:19,24	156:11 211:7
79:18 85:22	189:10,15,16	40:12 142:2,16	111:21 166:23	currently 7:18
94:13,21 97:17	189:23 190:6	couple 10:14	created 19:21	13:19 24:5
103:16 108:3,4	190:13,20,25	14:12 20:10	20:6 21:13	26:18 27:16
116:20 118:18	191:17,21	42:2 56:7,21	22:4	65:13 94:25
122:8 125:7	193:4,12,13,23	61:24 66:24	creating 157:17	155:13 161:2
126:1,15	194:13,14,17	75:19 103:6	191:9	163:6 164:4
127:14,15,16	194:20 195:9	115:22 123:2	creation 19:5	168:23 171:22
132:2,3 133:18	195:13,23	123:18 138:25	20:2	174:20,23
134:1 137:18	196:1,5,12	145:10 168:18	credit 43:9	curtail 22:10,12
137:19,21	197:5,20 198:1	213:20	credits 15:12	172:4 173:6
138:8,9,12,13	198:19,22	course 29:11	209:2	curtailment
143:5,19 145:7	199:8 200:7,9	54:5 59:25	crisis 21:13	206:9
145:8,13,17	200:10,20,23	71:25 72:20	criteria 48:4	cuts 211:22
147:6,7,14,18	201:11,22,24	82:18,20,21	critical 20:8	D
147:24 148:12	202:6,16	101:11 104:14	crop 36:2,2	
148:13,15,20	203:25 204:5	106:7 142:5,15	142:14	D 22:14 217:17
148:21 149:4	204:12,13	145:2 151:18	crops 142:12	217:17,20,21
149:10,11,23	205:8,15 206:6	159:6,19	cross-examina	217:22,23 D'Antonio 10:17
150:10,10,20	206:7,10	161:22,24	3:5,5 12:23	D'Antonio 19:17
151:2 152:25	207:15 208:22	163:10,16	13:2 144:20	57:13 62:12
		•	•	·

daily 48:17	57:23 59:24	47:13 105:6	demonstrative	155:7 156:15
dairies 32:13	60:15 61:14	124:3 175:11	12:19,21,22	158:6,9 159:5
dairy 32:11	62:5,6,8,9	175:14 178:2	14:10 15:5	160:22 169:16
33:12	64:10 68:1,22	194:23 204:15	16:17,18,22,23	169:18 215:4
Dalrymple 6:18	73:9 78:18	205:2 209:6	17:5 19:2	216:5 217:8
8:6,12	84:4 90:13	declarations	24:14,15 25:14	depositions
Dam 120:20	92:24,25 93:2	37:25 41:13	25:17 26:8,14	159:15,17,21
damaged 78:6,8	93:18 102:11	declare 204:11	30:1 38:2	derive 14:11
Danny 24:24	112:15 121:17	204:11	39:10 55:18	139:12
data 23:13 59:9	130:8 131:2	declared 37:24	56:19 62:23,24	derived 209:3
68:6 69:23	172:13,18	declaring 38:16	63:8 70:7	derives 14:13
70:1,4 72:20	173:3 174:16	38:18 39:15	80:22 86:19	describe 17:12
73:14,24 74:9	174:17 202:1,2	41:17	96:9 99:15,17	18:17 20:19
74:15,25 86:23	211:9 219:20	decreased	100:23,24	22:5 30:7
87:5 98:12	dated 75:9	146:20	101:10 106:18	31:15 33:1
101:15 107:4	dates 45:19	decreed 174:23	113:21,23,25	41:15 43:24
122:21 139:13	93:14	dedicated 169:3	114:19 128:13	45:6 48:11
140:11,13,14	day 35:5 60:11	defendant 2:12	139:1,2 140:11	52:12 55:20
140:18 143:9	62:22 83:23	2:16 88:15	141:9,24 149:8	56:22 63:12
145:15 148:15	89:19 90:11,12	Defendants 1:7	149:15	68:16 69:11
160:15 161:3,6	219:17	define 161:14	denied 39:3	70:25 71:6
161:6 163:18	day-to-day	176:6 205:6,13	93:21 188:11	88:14 107:1,18
167:6,17,24	22:25 42:17,20	defined 193:12	Denver 2:10,14	108:19 110:16
168:4	72:19 151:13	214:1	2:19,23	111:10,25
database 23:17	163:10,11	defines 204:14	deny 28:12	114:20 120:12
23:20,21 27:22	days 64:3,3,10	204:15	115:19,21	122:16 134:25
27:25 28:3	78:10,12,18	degree 15:14	116:5,9	137:1 138:19
44:2,3 45:16	79:16,17 84:3	192:7 205:6,13	Department	139:4 143:11
45:19 54:8	85:6 101:25	Deitchman 8:6	2:18,22 141:17	described 24:18
68:6 69:7,10	158:9,11	8:13	142:21	72:20 85:10
69:12,13,14,15	dead 203:2	delay 7:21	dependent 147:1	124:20 137:5
69:18,21,22	deadline 112:23	delinquency	depending 36:2	145:6 152:12
70:6,9,18,23	deal 27:3 206:12	85:5	91:17	154:3 157:12
72:16 73:15,17	dealing 165:17	deliver 33:21	depends 161:21	describes 20:20
73:20,21 74:11	206:19,24	delivered 34:5	199:18	40:11 57:19
74:20 75:1,12	December 19:15	43:8 95:21	depicting 40:17	70:20
75:13 85:2	81:7 130:9	97:6	depleted 173:1	describing 20:13
86:24 96:2,5	195:23 211:9	deliveries 33:22	depleting 172:16	20:14 21:11
96:11,23 98:13	219:17	36:24	172:25	40:10 57:23
113:3 114:24	decide 204:20	delivery 37:7,12	depletion 52:11	70:12 96:14
115:1,16	205:1	37:14 127:10	52:16 181:18	114:16 150:21
160:16 161:4	decision 9:12	129:13 139:20	181:25	description 40:8
186:25	declaration 38:4	204:7	depletions 39:2	40:10,19 71:6
date 19:9,14	38:7 39:9,14	demands 194:6	39:5 173:13,15	136:21 137:6
37:22 38:6 42:24 44:6	39:19 40:15 42:8,18 44:14	Demetrio 24:24 Demo 145:11	173:25 174:1	148:10
45:15,24 46:2	44:17 46:5	146:8,9	deposition 5:4 5:22,24 7:5	descriptions 71:4
45.15,24 40.2	14.1/40.J	140.0,7	J.44,44 1.3	/ 1. 4

design 77:20	determining	155:4	93:5,5 95:6,18	127:17 128:8
designate 96:25	129:1 182:24	direction 157:5	102:20,20	128:21,23
designated 9:3	develop 63:8	directly 17:9	112:24 113:6	129:8,12 131:6
38:21 80:17	developed 96:4	26:20 32:9	114:12 119:12	161:14 163:9
91:8 92:24	107:21 162:10	125:17 126:11	121:24 129:12	163:19,21
133:7 154:6	204:21 205:1	135:20 161:1	131:4,18,19	166:14 168:20
designation 5:24	development	212:17 213:1,3	132:19,20	172:9 178:6
6:25 8:7 50:16	47:20,21	disagreement	133:7 137:12	181:12 182:22
50:21 51:1	device 61:6	7:16	137:20 139:9	191:24 197:22
designations 5:4	devices 10:24	discharge 43:9,9	140:14 141:23	198:4,7,20
5:22 6:20,21	29:21 61:3,5	209:1	143:15 144:25	199:7 201:7
7:1,18,19,24	differ 28:20	discover 78:17	146:1 147:6	202:7 212:10
8:14 58:22	difference	discuss 25:5	148:19 153:18	diversions 22:11
detail 15:2 25:5	139:23	30:25 37:15	155:14 159:18	22:13 23:4
28:7 30:25	differences	99:9 117:21	170:15,17,22	34:15,17,22
124:16 137:2	153:23 154:17	119:14	171:3,5,11	36:5,5,9,12
detailed 101:12	different 14:12	discussed 82:9	185:8,11,16,17	37:2,5 60:5,9
101:14,23	16:11 18:16,21	114:6 128:24	185:20 206:4	87:16 90:5,25
137:11 138:16	23:2 24:20	135:3 169:9	211:6	91:1 98:11
details 19:13	25:11,23 26:21	170:14 203:4	district-specific	99:12,21
56:17 62:20	29:25 33:2	discussing	171:20	100:13 101:15
117:5	42:2 44:3	181:15 210:17	districts 20:3,8	101:24 105:3,7
determination	48:15,20 50:6	211:1	25:24 26:1	105:25 106:1,8
47:11 125:23	64:16 66:24	discussion 8:23	128:11 153:5	107:9 108:17
125:24 132:15	71:24 72:18	111:23 181:21	ditch 22:19	116:17,17,25
146:17 172:21	73:6 74:11	dispute 7:8	160:7	117:10 119:18
179:8 181:17	75:19 83:1,2	distinct 120:1	ditches 29:18	119:22 120:6
181:23 182:5	90:24 91:5	distributed 68:2	153:12	120:20 121:23
182:12 183:14	93:9,14 103:7	distribution	diversion 35:13	122:5 123:13
204:6,11	103:13 115:22	14:3	36:8,18 37:13	123:15 161:13
206:15 214:23	127:19 128:1,4	district 6:6 14:4	45:14 50:19	163:6 172:5
determinations	128:15 137:11	16:19 17:13,14	51:4,5 60:7	173:13,24
94:4	143:13 151:20	17:15 18:2,16	61:11,12 63:18	180:1 197:23
determine 63:18	153:15 162:19	18:21 19:5	63:22 68:5,11	198:3,24 199:4
85:3 86:24	164:8,9 168:18	20:6,23 21:4,5	70:17,19 71:5	200:12
95:7 98:15	190:2 192:2	21:8,23 22:1,4	71:13,22 72:6	divert 91:12
126:13 127:7	196:8,8 199:16	22:12,17,19	79:21 90:23	95:3 109:8,9
128:7 148:17	difficult 108:10	23:8 24:13	96:25 98:5	122:23 125:3
183:3 203:9,22	208:13	25:4,7,7,9,9	99:4,4 101:9	198:17,18
determined	diligently 8:13	26:3,4,10,15	102:5 106:3,16	diverted 33:5,18
22:13 47:8	diminishes	34:2 36:23	107:23,25	61:8 66:21
129:16 162:5	140:8	37:7,11 43:11	109:6,11,14	67:3,5 73:9
172:5,13	dip 128:3	48:12 51:10	110:4 116:15	89:21 90:9
174:20 187:10	dipping 48:4	54:23 56:11	120:4 122:24	91:4 95:21
194:5 204:2	direct 3:4 13:13	60:9 65:9	124:3,14 125:6	97:1,19,20
determines	202:19	72:11 87:2	125:14,25	98:2,6 106:3
204:19	directed 95:3	88:21 92:16	126:14,22	106:14 109:21
	•	•	•	•

				<u> </u>
126:10 146:3	26:19 31:24	105:17,20	e-mail 11:1	42:16 52:16,18
146:25 161:16	32:2 48:16,18	118:22 130:20	117:16,17,19	53:14
163:14,19	49:7,11,17,19	144:15 169:25	117:21 118:1,8	effectuate
165:17 172:17	49:23 55:13	170:2,4,8,12	119:23 120:17	115:14 169:22
173:1 180:8,13	57:1 65:24	175:18 185:24	earlier 22:9 27:1	208:25
188:21	66:3,4,9,14	193:6,10	28:19 32:12	effectuates
diverter 133:25	168:8,9	195:19,21	49:13 51:11	209:23
134:9	domestics 32:5	197:7 201:1,3	78:1,20 82:24	efficiently 184:9
diverters 129:16	33:10	201:16,20	89:5 109:12	effort 80:10 87:1
131:21	Dona 20:22	202:13,17,23	111:13 114:16	118:10
divertible 194:3	21:17 38:13	202:25 203:3	116:12 122:14	efforts 134:12
diverting 118:4	39:17,23 40:12	205:9,25 206:2	124:20 136:23	eight-hour
118:4 198:15	142:2,15	208:15,18	137:5 138:16	158:11
199:21	door 68:2	210:12,14,17	154:3 157:23	either 9:18
diverts 90:22	DOS 75:5,7	210:21,23	172:18 173:3	42:23 43:6
division 171:11	DOS-based	211:18,20,24	203:4 215:2	60:2 65:2
214:17	74:12	212:4,9 213:9	early 135:17	79:18 91:9
docket 100:19	dots 92:5	213:14 215:23	166:8	110:20 114:12
document 11:25	dotted 149:25	216:14,15	earmarked	146:19 151:18
12:5 19:2	double 89:20	218:6	212:13	170:6 177:21
24:10 38:3,10	90:9	due 84:11	ears 28:23	178:5 209:11
51:23 55:19	double-check	212:12	easier 74:19	El 71:20 72:12
68:14 74:3,7	152:9	Dulin 126:17	easily 135:7	elapsed 64:18
75:22 76:22	double-checked	127:9	east 17:21,22	Electric 71:20
80:4 81:11	202:22	duly 13:12	EBID 33:22	electronic 85:19
82:25 111:4,7	doubled 179:22	DUNN 2:4,9	34:5,12 36:4	electronically
111:23 120:22	Dr 5:10,21 7:10	Duran 125:9	36:14 95:21	60:2
121:22 129:21	9:2,5 49:21	126:21 127:9	97:3,7 125:14	element 179:7
131:11 133:23	66:12	duties 14:19	125:17,19	192:8
171:9 185:1	drafting 29:3	22:5,6,7,23	126:22 127:10	elements 112:8,9
201:17	drawn 95:8	23:1,24 24:7	128:24 129:8	Elephant 17:17
documentation	drilled 140:17	24:18 28:19,20	139:18 140:16	21:5 22:19
123:25	174:9 177:10	28:21 33:21	145:16 146:10	34:1 36:22
documenting	177:12,14	34:3 35:7	147:22 148:22	37:6,11 56:10
127:13 134:1	178:7,13,24	44:22 72:17	149:22 150:12	95:18 129:11
documents	drilling 46:7	80:13 81:17	150:19 160:1,2	159:18 212:13
10:19 28:2	52:17 157:21	100:2 134:24	194:1	elevation 145:13
55:21 149:15	174:17	136:22,25	EBID's 139:13	eligible 199:11
doing 27:25	drinking 31:23	137:17 157:8	140:19	eliminate 187:24
42:17 80:14	32:6 33:7,10	157:10,19	education 15:7	188:10
96:23 129:15	drought 21:12	215:14	effect 41:16,19	else's 199:6
145:20 151:19	Dubois 2:22 3:5	duty 22:10	52:11,20 162:8	employ 219:12
198:24 199:2	4:19,21,22	58:17 172:4	effective 57:23	employed 49:22
201:20	8:24 11:22		61:14 75:10	employee 6:6
dollars 89:19	12:6 13:1 82:4	<u>E</u>	144:4	219:10
90:11	86:1 88:5	E 2:1,1,1,1	effectively 200:2	employees 26:25
domestic 21:6	100:7 104:1	22:17	effects 42:11,11	encompasses
1	I	I	I	ı

	ī	•	•	1496 250
17:15	62:11 77:8	114:23 168:4	20:23 44:5	example 51:18
encompassing	84:9,16 87:25	entering 27:23	194:20	70:5 73:12
40:24	89:17 90:7	68:7,10 69:6	estimate 49:17	79:5 85:9
encourage 80:23	92:24 102:19	74:7 160:14	estimated 66:8	87:14 96:11,12
80:25	109:15 112:6	161:3 163:17	66:11	97:18 103:14
end-of-the-year	117:22 119:14	enters 161:6	estimates 32:2	106:21 108:2
163:16	122:1 129:4	entertain 28:10	59:14 78:15	108:21 123:3
ended 45:23	135:21,25	entertained	estimation	125:8 126:17
ends 5:19	154:19 160:4	69:16	146:23	127:3 131:9,19
enforce 23:11	166:6 172:5	entire 37:21	et 10:25	136:1 166:2
42:25 58:4,24	184:7 186:9	69:14 73:3	evaluate 183:9	177:5
89:17 108:16	203:13,15,23	120:19 131:8	evaluation 51:12	examples 79:7
131:5 180:14	204:1,10,14,19	150:3 182:18	52:5,21 53:17	126:2 128:25
181:6 214:10	204:20,24,25	entirely 154:12	55:3,4 94:24	exceed 158:14
enforced 58:1	205:6,13	entities 32:11	183:6 187:2	189:12
enforcement	engineer's 16:3	152:4	210:11	exceeded 98:8
14:25 23:9	17:2 25:6	entitled 122:23	evaluations	99:7
42:17 56:17	27:24 59:2	165:18	214:12,19	exceeds 98:1
62:21 63:6,12	60:3 61:19	entitlement	evening 217:3,9	exception 185:7
63:14 65:10	69:17 84:7,19	212:15	events 120:1	213:6
79:6,15 87:9	85:21 99:24	entity 38:21	210:6	exceptions 89:13
87:15,21,23	100:18 105:12	entries 97:9	everybody 83:12	excerpt 217:9
88:13,18,21,22	111:25 121:11	entry 68:23	218:8	excess 158:7,10
89:10 90:14,16	128:23 130:15	74:12,15	evidence 5:6	exchange 11:23
90:21,23 99:11	132:5 133:20	environment	7:11 9:7 46:3	excuse 11:9,18
99:13 100:1	135:23 178:10	172:12	82:16 92:25	34:21 39:4
101:1,2,8	engineering	equipment	93:3,20,21,24	57:8 75:13
102:8,21	26:18	29:14,15,20,22	94:3,9 95:2	88:10 101:13
124:19 129:18	enroll 84:16	30:13 77:19	98:19 99:2	107:7 119:1
131:18 132:14	112:12	132:25 133:3,9	112:14 124:1	121:21 124:24
132:19 137:3	enrolled 15:11	134:3 184:6	195:1,3,21,22	124:25 127:2
137:23 144:4	ensure 22:20	equities 82:8	195:25 196:14	130:7 137:16
157:20 206:8	23:5 76:12	Erickson 27:15	212:2,5	143:3 149:6
206:20	169:10	error 11:23	evolve 145:24	150:9 151:12
enforcements	ensuring 29:1	especially 98:17	exact 101:4,6	159:20 186:8
143:22	entail 23:1	essence 110:24	130:1	194:7 201:8
enforcing	enter 4:5,12	192:13	exactly 68:1	excused 216:23
131:20,20	54:7 68:5,25	essentially 28:2	73:12 104:23	execute 199:12
engineer 6:7	69:15,23 72:20	48:8 95:20	215:24	exercised 47:24
15:21 19:4,17	74:25 75:12,13	143:9 187:16	examination 3:4	exercising
19:18 20:2,15	85:1 96:5	190:19 191:17	3:6,6 5:21 11:5	109:21
21:22 22:3,14	160:25 161:9	establish 30:12	13:9,13 202:19	exhibit 5:7,8,9
25:4,23 28:11	entered 22:16	167:5	213:23 216:2	5:19 6:1 7:22
37:18 38:16,19	23:20 28:1	established	examiner 100:21	10:20 11:18
38:24 41:4,19	69:8 70:23	42:21 78:15	102:17 163:1,4	13:3 14:10
41:24 42:23	72:23 76:6	144:24 195:12	examiner's	16:21 19:12
57:12 59:6,13	112:25 113:1	establishment	102:22	25:15 39:7
	<u> </u>	<u> </u>	<u> </u>	<u> </u>

57:7 60:12,13	99:13,20	122:24,25	faster 210:19	179:11 199:13
62:2 68:12	100:11,12	155:7 166:23	Faykus 124:7	200:6
70:7,7 74:1	102:10 162:7	176:21 181:16	131:9,15	filed 44:14 48:13
76:20 80:2	experience	212:12,24	132:14,21,23	72:23 93:5
81:10,24 83:16	145:2 206:24	factory 77:21	133:17 134:11	112:13 179:9
85:8,24 86:19	207:1,3,23	facts 20:18 21:1	211:7	186:12 190:11
87:17,18 88:8	209:8 210:1	219:5	FDR 93:1 94:7	190:22 191:12
88:23 89:3,8	experts 113:19	failed 201:18	112:14 162:3	191:23 192:10
99:16,17,19	141:3	failing 184:6	194:10,12	196:7 201:22
100:5,23 103:2	Expiration	failure 85:12	Fe 77:11	202:8 214:13
103:3,4,9,24	219:20	Fair 209:10	February	214:21 217:16
105:3 106:18	explain 11:20	210:12	115:12 200:19	files 45:10 58:3
108:18 111:3	25:6 27:19	faith 78:12	fee 155:2,5	61:22 94:3,19
113:22 117:15	28:7 45:12	fall 32:9 49:8	feel 6:10	106:3,5 107:6
118:20 119:1	97:21 105:24	76:5 129:10	fell 129:7,24	108:8 176:15
120:25 121:14	113:23 126:6	154:2 168:8	felt 145:24	176:19,24
128:14 130:3	128:18 184:1	falls 203:1	146:18	177:3 191:4
131:10 136:10	explaining	familiar 25:20	Ferguson 103:6	193:9
139:1,2 149:8	104:21	37:25 74:23	114:18	filing 157:17,17
149:17 181:16	extend 41:4	103:10 110:11	field 23:3,19	186:9
181:21 210:18	187:19	111:4 132:1	28:23,25,25	fill 29:23 107:23
211:16	extended 37:24	183:1,11,17,19	29:3,8,9,12,13	155:8
exhibits 5:20 6:2	38:12	184:16,20,21	29:14 30:4,11	filling 155:10
11:5,6,11,15	extends 41:6	184:22 208:20	30:11 54:15,19	final 9:12 54:7
11:16 82:10	extension 38:11	209:12	55:7 63:16,17	56:16 62:3,5
135:14 159:7	41:13	far 18:6 26:23	64:4 75:15,16	65:9 86:20
exist 34:25 36:12	extensive 86:11	27:12 31:3	78:1 79:6 87:3	88:22 90:4,12
39:22	extent 17:16,18	50:24 83:1,4	120:15 121:21	92:9,9 98:24
existed 153:24	40:20,21	88:6 105:24	121:25 145:15	112:3 129:15
existing 38:23	132:16 197:1	122:17 130:21	151:19 158:2,4	129:17 131:17
39:25 42:4	200:8,22	142:11 159:12	fifth 86:15	133:4,16
48:21 115:24	eye 54:14 151:22	179:23 204:5	142:13 165:22	139:15 147:24
129:3 166:17	eyes 28:23	farm 112:10	figure 49:18	148:2,8 150:2
199:12	F	115:3	164:5	finalized 80:11
exists 7:15 153:7	facilitate 42:16	farmer 109:20	figures 92:6	finally 10:22
182:19	114:25 128:5	187:5 188:24	93:10 142:13	find 42:24 46:11
expanded	114:23 128:3 167:17	188:25 189:2	file 5:8,25 8:16	78:8 199:10
120:18 122:15	facilitating 87:4	194:6	8:21,22 45:14	findings 20:18
190:12,24	facilities 80:18	farmers 34:6	45:18,21,25	21:1,9
expanding 191:9	209:3	111:11 199:5	46:3 51:22	fine 205:25
200:7,8	facility 32:14	farmers' 189:11	52:6 71:25	finish 208:16
expansion 191:2	43:9 67:3	farms 56:11	98:16,25	Firm 219:23
191:6 200:3	125:22	84:10,17 110:21 200:4	109:23 112:10	first 10:9,15 13:12 14:14
expect 46:22	facing 23:22	fashion 67:6	122:11 124:3 124:13 128:22	
expedite 100:16 100:17	fact 21:9 44:11	100:14 111:18	124:13 128:22	15:3,7 18:5 20:12,18 22:10
expedited 90:25	99:3 116:18	fast 100:14	176:18,23	35:9 38:4,6,23
expedited 90.23	// 110.10	1 asi 100.17	170.10,43	33.7 30.4,0,43

39:9,11,18	flows 39:2 42:5	119:12	14:18 90:5	207:7
41:10,23 45:18	46:18 66:15,22	found 38:25	143:11 200:3	Gila 17:25
46:8 48:16	175:4 176:7,8	42:11 43:20	213:16 215:21	give 10:5 26:4
50:12 53:10,10	176:20 182:6	45:18 47:5	216:1,13,15	54:22 78:13
55:24 56:20	205:14 214:13	74:19,24 79:8	219:9	133:1 136:6
57:10,11 59:4	214:20	129:10 169:17	future 187:25	138:11 177:5
60:19 61:1,15	fluctuate 36:3	foundation		213:14 216:17
69:21 75:20,22	fluctuates 65:20	86:11	G	given 101:25
81:4 88:10	185:21	four 24:5 26:21	gage 72:12,14	108:10 147:3
93:10 95:16	fly 200:4	26:25 36:13	GARZA 219:3	148:19 150:7
109:5,5 115:7	focusing 18:11	108:25 109:19	219:19	150:16 165:4
115:23 117:4	folks 44:2 94:17	156:12,22	gears 110:7	219:16
135:9 136:2	165:17	157:4 165:19	155:25	gives 53:22 97:8
142:7 144:14	follow 62:22	165:19,21	general 15:1	110:22
144:16 146:11	80:16 121:24	fourth 59:1	81:5 112:16	giving 18:11
158:16,24	154:4 163:9	frame 37:6	136:25 174:6	88:12
159:2 161:14	170:5	133:7 145:22	190:10 195:24	globe 71:12,13
197:6,9 200:21	follow-up 76:4	158:20 198:4	generally 14:1	go 4:2 8:15 10:9
217:7,10	130:11	frames 199:16	20:14 29:12	10:14 15:4
fit 33:16 110:23	followed 77:5	framework	51:14 74:18	19:9 24:14
five 64:3,3 79:16	95:2 129:17	171:16,18	77:12 87:11	26:7 35:7
83:19 130:2,2	148:11	206:16,16	98:12 101:19	39:12 41:1
199:17	following 60:7	207:17 208:8	102:1 112:20	44:8 51:14
flag 98:1 152:9	104:22 106:15	Francis 2:4 4:14	136:16,20	52:5,8 54:6
flagged 166:13	109:10 135:18	Franzoy 142:12	164:6 166:3	55:2 57:15
flags 97:22	199:4,23	free 8:21 216:24	168:6,8,20	59:16 62:4
flash 210:6	follows 13:12	frequently 76:10	177:4,6 189:16	63:11,17,25
flex 158:12	foregoing 219:6	151:21 160:5	198:23 205:17	64:1 65:6,8
flexibility	foremost 115:23	friendly 81:6	208:23	68:23 70:16,18
110:23 111:11	Forest 17:25	front 69:23	generate 64:4,5	75:22 76:6
153:9	form 43:8 50:9	70:14 100:20	generated 49:20	82:6 87:17
fliers 61:24	50:10,11 68:17	136:3,13	67:1 142:20	89:2 90:15
flip 40:13 56:19	68:20,22 84:14	front-end 96:21	gentleman's	94:14 98:20
75:3 100:22	98:14 103:11	full 57:11 59:1	24:21 26:15	101:18 104:9
103:5 108:1	107:20 108:19	135:11 148:22	geographic	104:24 109:3,4
122:6 127:2	112:7 114:2,3	149:22 150:6	15:15 16:19	109:17,23
136:5 213:14	114:5 135:7	150:11 194:6	17:12 181:2 185:5,8 197:24	113:7 117:5
flipping 38:9	154:6 155:8	fully 94:2 102:4	200:3	123:18,19
flood 210:6	186:9 187:6,12	107:25	geographical	124:6,16
flooding 210:6	188:8	function 28:22	200:8	132:11 133:2
Floor 2:18	formal 118:12	193:21	geography	134:22 137:8
flow 29:21,22	118:14 188:5	functional 75:10	15:15 198:10	139:22 140:9
30:12 39:2	format 135:7	functioning	getting 30:13,21	141:8 143:6
57:17 76:13	forms 155:11	164:16,21	81:2 83:4 86:7	144:14,16
78:15 205:7	fortunate 15:19	functions 27:20	97:24 177:23	152:5,9 154:6
209:21,23 flowchart 63:8	16:2	28:8 72:18	184:5 186:25	155:19 157:22
nowchart 65:8	forwarded	further 13:4	101.3 100.23	162:18 165:1

				1490 255
167:3,4 168:1	134:6 143:25	143:24 144:5	76:18,23 79:23	growers 160:11
183:20 187:8	144:15,16,21	147:21 150:24	79:24 84:21	160:12
195:18 199:5	145:21 149:7	151:15 152:2	91:13,16,17	guess 8:21 18:19
199:10 205:24	149:11,14,18	152:21 153:8	95:7,25 96:7	149:15 153:22
210:18,21	150:10 155:24	160:3,9 169:1	96:16,25 97:1	164:22 202:12
211:15,25	156:1,8,9,10	169:7,12,20	97:7,11 98:5	guidance 76:16
213:22 216:24	158:8 169:2,14	170:15 171:5	104:13 108:24	79:21 80:12
goal 167:12	170:7 185:2	174:8,19,21,24	109:7,18	206:17
168:2	215:10,25	174:25 175:4,5	138:22 139:8	guide 74:5 80:14
goes 17:21 52:2	216:3,12	175:8,16 176:2	139:12,24	
54:9 81:6 86:2	good 4:13,18,21	176:8,8,20	140:2,6,7,15	H
86:22 88:6	9:23 13:15,16	181:10 185:7	140:21 141:7	hand 10:4 29:16
102:3 104:2	78:12 87:12	185:11,16	145:13,19	219:16
115:10 118:22	101:19 102:2	196:24 197:19	146:10,21,24	handled 92:19
140:3 144:25	104:18 108:13	203:8 204:4	147:5,11	happen 119:8
145:2	115:25 142:3	206:3,5,25	161:23,25	214:20
going 8:23 11:21	154:16 156:3	209:19,21,25	162:2 170:16	happened 88:12
15:2 16:16	159:13 170:3	210:2,8 212:10	170:22 174:12	88:14 132:13
20:10 26:4	174:11 187:9	212:13,23	174:13,15,16	happens 68:20
43:23,25 46:5	187:17 188:13	214:18,25	175:3,9,13,24	79:12 90:22
61:4 65:19	188:16,25	Grant 38:13	183:13 184:11	140:3
69:6 73:1,11	213:18 216:22	41:6	191:25 199:6	happy 8:10,15
75:15 80:20	Google 71:14	granted 20:1	200:12 203:9	hard 28:2 136:3
87:14 94:21	Gordon 119:5	147:21 203:6	204:2,21 205:1	168:9
96:12 100:8	gosh 159:1	graph 107:1,3	206:3 207:4,24	harder 164:5
101:13 103:23	163:25 183:10	148:10	208:21,21,25	Hartman 2:17
104:14,16	185:24	graphic 139:6	209:4,6,13	4:23,24,25
110:7 114:18	gotten 15:20	graphical 107:4	groundwater-l	216:18,19
116:11 118:19	160:21 163:1	graphically	138:23 140:11	Hatch 18:23
123:1 136:1	GPS 122:20	139:8	140:13	142:6
144:14,16	GPSs 29:23	Great 136:15	groundwater	head 202:2
162:11 163:17	graduated 15:24	greater 52:18,20	91:11 161:22	headed 207:11
168:23 184:23	16:1	53:14 94:7	184:14	header 16:18
190:4 197:8	Grande 13:19	ground 10:14	group 8:7 26:12	21:19 27:2,7 52:10
202:11 207:21	14:7 16:15,19	36:1 94:17	26:23,24 27:3	headings 45:13
208:16 211:25	18:1 20:6,21	206:13,21	27:9,14,17,19	heads 28:6
212:5	20:23 21:14,15	207:8	27:21 28:7,9	hear 78:24 95:4
Goldsberry 2:4	25:11 26:24	groundwater	28:13,18 48:14	heard 7:2 32:12
3:5,6 4:9,11,13	27:9,11 31:2	21:23,25 22:21	51:11 53:18	32:17,18 34:19
4:14 9:18,21	31:21 32:15	33:5 34:8,11	54:4 55:4,7	37:23 82:23
25:18 45:3	33:21 35:1,2	37:24 38:16,17	77:11 88:24	83:1 92:4,11
81:25 85:25	42:6 46:1 48:9	38:20 40:3 41:21 42:1	129:2,7 153:13 209:19 214:14	100:20 110:8
88:4 100:6 103:25 105:16	51:15 55:14,16 55:24 111:18	43:10,15 48:7	214:16	140:4 184:19
105:25 105:16	117:13 121:23	50:17,22 51:4	grouped 185:12	hearing 1:11
120:9 121:15	123:20 126:11	55:11 60:23	192:2	65:4,5,6 91:1
130:19 132:9	125.20 120.11	66:21 73:8	groups 26:22	99:21 100:17
130.17 132.7	127.4 143.13	00.21 /3.0	g10ups 20.22	

	ī	·	-	
100:18,21	hit 123:1	huge 12:4	117:10 119:18	impeached
102:10,11,15	hold 6:22 16:6	hundred 55:1	120:3,20	215:3
102:15,16,17	132:23 191:3	72:4 89:19	122:24,25	implement
102:22 162:7	holders 154:23	90:11 190:17	123:12,15	100:1 154:17
162:13,20,21	155:9	198:15	124:1 125:6,24	157:10 168:25
162:24,25	Holguin 30:20	hundreds 54:24	126:13 128:8	169:6,19 215:5
163:2,4 219:8	35:14 126:3	hydrological	128:25 129:16	implementation
219:11	holidays 167:23	187:2	131:21 134:20	56:12 137:7
hearings 162:16	home 32:7	hydrology 49:20	150:23 151:6	215:8
162:18	Honor 4:8,14,21	66:12	151:15,23,25	implemented
HEATHER	4:24 5:3,13	hyperlinks	212:10	112:5
219:3,19	6:15 7:2 8:5,17	70:15,19 72:24	illegally 118:4	implementing
heavily 147:1	8:25 9:21,25	hypothetical	image 160:25	215:6
held 1:12 8:8	11:22 13:1,10	179:20	imaged 72:23	importance
132:24 162:22	82:4,15 83:14		imagine 65:19	191:25 192:5,7
help 20:4 24:17	86:2,9 88:5,7	I	immature 93:12	192:14
97:23 111:7	105:21 144:17	IBWC 127:23	93:14	important 74:10
160:21	149:12 156:9	128:11 152:7	immediate	145:25 146:18
helpful 201:13	169:14,23	idea 9:5 146:5,7	213:4	146:22
hereto 219:6	170:11 195:20	ideas 146:6	immediately	inactive 121:22
Hickory 13:22	202:14 205:25	identical 41:11	18:8 26:16,20	inadequate
high 14:21 15:8	208:15 210:10	identified 6:7	27:1 93:21	167:3
15:9,10 192:7	211:21 213:9	14:19 20:8	106:15 135:18	include 5:9 18:2
high-level 136:7	213:15,16,21	32:7 46:2	212:17,23	21:4 60:19
high-tech 29:20	215:22 216:13	63:14 70:19	impact 42:18	70:11 116:8
higher 92:22	216:16,19	91:9 107:7,8	46:17 47:9	127:16 136:7
93:1 112:14	217:11,25	118:2 120:16	66:14 176:6,19	136:19,22,24
highest 32:25	218:6	143:12 151:7,9	182:13 183:14	137:4,20
highlight 26:3	HONORABLE	187:15 190:14	183:15 205:6	138:16 141:19
highlighted	1:11	190:21 191:4	205:13	146:1 147:11
56:21	Hopefully	213:6	impacts 42:20	151:14 155:1
highlighting	177:12	identify 44:3	175:3 176:13	180:12 182:10
26:11	Horner 35:17	76:21 97:24	182:5 183:4	included 18:4
hired 160:24	horse 203:2	106:7 107:24	187:3 214:12	20:2 56:24
hirings 156:25	host 190:2	110:3 112:7,11	214:20	66:5 116:8
historic 91:8	Hot 18:5,7,12	112:12 120:19	impair 38:25	127:13 152:15
180:11	25:13 27:11	122:22 123:14	39:25 42:3,5	176:21,22
historical 52:20	123:7,11,16	151:15 164:5	impairment	188:7 189:13
68:8 110:19	hours 28:24	167:18	42:7 47:9	192:9 193:18
111:14 113:18	158:7,12,13	identifying 21:3	52:15 53:13	includes 69:12
182:9 183:23	housed 70:4	29:2,24 114:8	170:23 213:4	101:12,14
194:23	household 49:10	152:4	Impairment/S	including 7:6
historically	55:13 57:1	ignore 12:5	52:11	10:25 123:11
52:18 53:15	65:23	II 2:4	impairments	incorporate
104:11 182:3	Houston 219:24	illegal 22:11	39:6	106:24 141:12
history 56:3	Hueco 25:12	29:2 61:12	impairs 212:18	207:18
73:2,3	27:5	90:5 116:17,25	212:23	incorporated
	<u> </u>	<u> </u>	<u> </u>	<u> </u>

				Page 233
62:20 82:18	59:21,22 60:1	28:25 75:15,17	international	involved 118:6
92:9 169:13	71:24 73:1	75:20 157:24	17:20 122:2	119:17 145:14
208:11	75:23 82:16	165:13,14	128:2	150:22 181:10
incorporates	95:17 114:5,6	install 61:2,4	internship 15:20	181:11 186:15
103:12	115:16 136:19	65:3,8 88:16	interrelated	207:5,24
incorporating	136:25 141:6	installation 57:3	40:6	209:16
139:7	141:10,20	58:4,25 59:2	Interstate	iPads 10:25
increase 180:1	143:17 145:16	59:23 75:21,25	140:18 169:3	iPhones 10:25
183:4	145:25 146:12	installed 30:15	215:16	irrelevant
increased	146:16,18,22	57:5 59:15	interview 16:4	191:14
113:14 146:19	147:8,9,13	63:20 75:22	introduce 6:11	irrigate 125:4
182:2	155:12 161:9	77:15 164:16	introduced 7:6	126:10 127:1
increases 148:6	164:3 168:2	installing 83:25	introducing	184:9 185:21
181:18,25	176:5,10,13,14	instance 91:6	5:23 7:22	irrigated 58:23
increasingly	176:19,25	123:7 152:22	introduction	123:22 124:10
116:15	177:3	159:25 163:18	136:21	124:23 180:18
incurred 52:18	infrastructure	209:2	intuitive 74:21	180:19 185:19
53:14	125:16	instances 43:21	investigate	186:2 197:11
independent	initial 56:18,24	116:7,9 164:1	110:4 117:9	197:12
114:24	57:7 62:18	168:13 176:12	152:5	irrigating
INDEX 3:1	63:23 75:21,24	179:2 187:10	investigated	166:17
indicate 69:7	107:11 148:5	207:16 208:1	43:14 113:13	irrigation 21:5
indicated 22:17	151:9	intended 14:17	123:10 124:22	22:19 31:20
52:14 126:8	initiate 199:10	intending 92:22	127:19 128:16	32:24 33:5
indicating	initiated 124:19	intent 87:4 93:4	151:25	34:1 35:15
112:17	injunction	93:11,12,14,17	investigating	36:23 37:7,10
individual 38:21	132:20,21	94:20 95:2	122:4 131:20	56:11 65:14
47:15 48:3	injunctive 88:21	98:19,25	investigation	67:10 73:6,13
61:3,5 67:2	90:4	112:13 196:6	43:18 52:14	91:11,24 92:3
89:13 166:12	injury 22:14	interactions	55:8 118:7	95:18 96:7
176:7 180:15	172:6 173:16	159:2	119:18 120:15	110:19 113:4
190:12,23,24	174:2 203:9	intercepting	120:22 121:6,7	113:14 129:11
191:14 192:22	204:3	120:6	121:21,25	135:18 139:8
192:23,23	input 23:16	interception	122:18 123:4	139:16 140:22
individually	73:14,21 97:4	175:9,15,22	124:25 126:6	146:10 147:1,5
44:9 61:10	inputting 73:24	176:1 212:16	127:8,13,14	147:12,22
individuals	74:9	212:22	133:23 151:9	148:8,18
24:23 27:16	inspect 54:20	interested	201:18	150:15 159:18
82:24	63:17 76:11	157:10 219:13	investigations	irrigation-type
industrial 21:7	165:9	interesting 13:6	23:3 54:19	73:5
32:11 33:12	inspecting 165:7	interface 23:23	78:2 79:6	issuance 201:25
65:15 67:13	inspection 59:10	69:24 70:3	120:12 129:22	issue 5:2 6:18
72:1 91:7	63:16 64:4	intermingled	investigative	7:14 8:19,24
inform 84:4	75:21 76:9	206:21	150:22	8:25 27:10
information	84:6 133:4,12	intermingling	invoke 114:4	45:11 47:4
11:24 15:15	133:16 165:5	206:12	invoked 178:10	56:13 61:10
23:16 24:16	inspections 23:4	intern 15:22	180:2,6	65:6 68:11
	•			

102:9 104:5	10:13,19,22	107:21 164:12	174:5,13	190:13,14,25
117:14 118:12	11:4 12:4,7	keeping 28:3	178:17 179:6	191:1 192:20
118:17 188:17	13:7 25:19	54:14 151:21	182:15,23	language 56:6
203:12 211:8	45:4 82:1,14	key 74:13,14,21	183:5,13,22	60:21 89:12
217:15	83:3,9,11 86:4	kin 219:13	184:22 185:20	112:3 177:24
issued 43:5,21	86:14 88:8	kind 18:20 22:7	185:24 188:7,8	182:8
44:4 47:2,7,12	100:9 104:3,9	31:18 42:21	188:19 191:9	laptops 10:25
47:16,20 55:24	104:15,24	71:14 73:6	192:7,13	large 17:15
64:21 65:3	105:17,22	74:13,23 83:4	195:15 196:17	85:18 142:3,16
88:18 90:13	118:24 120:10	93:25 97:23	199:11 201:12	larger 32:1
129:18	121:16 130:23	117:12 120:18	203:1,15 204:5	118:10 180:7,7
issues 6:10 14:25	132:11 134:7	128:1 141:20	204:9 207:2,7	largest 168:22
15:1 75:2	144:2,14,18	152:16 182:23	207:22 209:2	Las 13:23 17:24
78:10 100:20	149:6,13	192:4	209:22 210:5,6	18:8,12,23
118:23 134:13	155:24 156:2,7	Klahn 2:8 4:6,8	210:9 212:2,4	21:5 25:12
151:3,10	169:25 193:3	5:2,3,18 6:5	210.5 212.2,4	27:11 32:4,18
215:15	195:17 202:15	7:2,4,25 8:17	knowledge	33:9 51:20
it'd 187:8	202:18 205:23	9:15,18 217:6	19:20 69:3	68:18 159:21
it'll 4:8 68:22,22	208:17 210:13	know 11:21	116:23 118:11	202:9
102:10	211:16,19,22	25:15 26:10	118:15 134:9	lastly 138:14
items 108:25	211:10,19,22	29:17,19 31:3	162:22 173:21	late 135:17
100.23	213:13,18,22	41:14 43:9	204:1 205:5,12	Lateral 35:10
$\overline{\mathbf{J}}$	215:13,16,22	46:7 47:12,23	knowledgeable	124:22 125:1,2
$\overline{\mathbf{J}}$ 2:22 13:22	215.11,25	48:2 54:24,25	6:9	law 2:18 6:10
J-O-H-N 10:12	217:1,5,12,22	56:2,3 66:20	known 39:21	21:19 170:20
James 2:22 4:22	217.1,3,12,22	68:1 69:3,21	68:4	173:13,18,21
james.dubois	judgment 92:9	76:4 80:24	06.4	173:13,16,21
2:24	116:22	82:7 84:25		212:19,24
January 67:11	July 67:11 83:24	86:6 93:4 95:3	L 78:5 219:3,19	Lawrence 2:9
81:9 83:23	115:8	95:15 102:7	labeled 150:5,6	laws 23:6
137:24	June 121:19	110:1 111:14	lack 82:23	lay 63:5
Jim 170:4	junior 15:19	111:17 114:10	laid 74:17	laying 86:10
job 18:20 23:24	172:13,15,25	117:7 114:10	land 71:7 109:17	91:2
44:21 72:16	172:13,13,23	123:14 128:24	112:17 116:4	lays 74:14
80:13 81:16	173:11,14,14	130:2 133:6,9	184:9 185:5	leading 215:10
100:2	jurisdiction		188:24 191:5	learn 154:23
John 10:11	37:19 38:17,20	136:16,24 140:4,21	193:11,12	Leasburg 40:21
19:17 57:13	41:20 129:11	140:4,21	200:8	40:22
62:11 92:4	178:10 180:3,6	148:22 153:9	landmarks	lease 109:14,17
Joint 11:6 39:7	204:16	157:14,16	18:21	187:18 199:5
41:1	jurisdictional	157:14,16	landowner	199:12,14,21
Juan 24:21	20:1	162:23 164:6	112:20 188:6	199:12,14,21
JUDGE 4:1,11	JUSTICE 2:22	164:19 165:3	lands 36:24 43:6	leases 199:16
4:15,19,23 5:1	JUSTICE 2.22	165:11 166:7	125:15 126:23	leasing 48:25
5:12,15 6:3,13	K	166:15 167:22	127:1 153:14	49:3
7:3,23 8:1 9:11	K 77:23	168:12 169:5,9	166:9,16	leave 202:11
9:16,22 10:2,8	keep 77:8	, , , , , , , , , , , , , , , , , , ,	185:12 189:12	left 16:20 17:11
7.10,22 10.2,0	neep //.o	172:20,22	105.12 107.12	lett 10:20 17:11

				1490 257
18:19 94:12	lift 125:16	64:22 87:15,21	lodge 86:1	51:18,23 53:9
95:23 128:18	126:25	88:19 101:22	logs 72:25	56:22 71:18
left-hand 15:6	liked 108:14	102:3 131:5,15	long 16:6,14	77:6 79:25
24:17 26:23	limit 58:18	158:17	61:7 136:4,5	83:16,18 97:13
30:2 50:13	93:23 95:23	little 28:7 35:23	162:7 187:5	101:16 111:9
53:25 55:20	97:24 99:7	40:22 65:20	189:11 190:4	128:13 138:23
114:14	limitation	67:15 71:11	199:24	140:12,23
legal 40:8,10,19	152:16 153:2	73:6 74:11	long-term	149:10 157:23
71:6 92:20	180:22 181:2	86:5 91:2	140:24 142:22	166:12 170:19
93:7 212:15	185:5,9,12	104:6 110:24	Longworth 92:4	171:23 209:11
legally 122:22	190:11 191:13	110:25 114:17	104:23 110:9	looks 4:1 83:12
legislation 19:24	191:24 194:2	124:16 127:25	look 9:12,13	107:12 136:10
lesser-known	limitations	164:5 165:15	19:12 20:11	156:7
142:11	58:24 92:3	168:12 177:23	25:14 38:15	loop 13:22
let's 9:13 11:5	152:14,17	177:24 197:12	39:7,13 40:8	141:21
16:17 31:1	180:14,16	208:13	43:17,23 44:9	loses 191:25
37:15 39:7,12	190:23	livestock 49:11	44:16 50:1	192:5
44:16 50:1	limited 20:4	55:13 57:1	53:8,16 55:18	loss 184:7
55:10,18 56:18	104:14 203:13	65:24 66:5	56:18 62:23	lost 177:23
57:10 62:2	203:23	local 27:14	70:5,6 72:21	184:4
67:7 70:5,6	limits 175:20	31:25 44:1	80:21 85:8	lot 29:24 74:19
76:20 86:16	Lincoln 2:14	52:10 54:10	87:14 88:9	86:7 152:6
87:17 108:18	line 40:23 76:5	65:9 90:17	89:9 98:12,14	167:17
117:15 119:2	107:7,8 120:21	92:20 102:20	103:2 106:17	lots 29:15
138:25 145:9	139:11,13	129:6 132:20	108:18 111:3	lower 13:19 14:7
145:10 146:8	149:25 150:5	160:5	111:22 113:21	16:14,18 18:1
147:4 149:18	150:11 157:18	locally 54:10	117:15 118:25	20:5,21 21:14
152:11 157:8	Lisa 2:13 4:17	90:15 169:21	123:2,4 126:2	21:15 25:11
161:13 165:15	list 5:8,19 6:1	located 13:21,22	130:3 138:22	26:24 27:9,10
166:25,25	11:6,18 13:2	35:18 71:15	138:25 145:9	31:2,21 32:15
184:24 190:18	22:22 30:3	72:9 77:11	145:10 146:8	46:1 48:9
195:5 198:15	35:8 44:7	112:17 152:19	149:18 155:19	51:15 55:14,16
200:11 202:9	55:20 59:6	152:20	166:15 175:21	55:24 111:18
203:3	77:8,13 137:15	location 30:20	180:11 198:23	117:13 121:23
letter 85:5,9,12	159:23	30:23 50:23,24	202:9,15	123:19 143:12
85:15 88:23,25	listed 26:16	53:21 71:1	214:19 217:9	143:24 144:5
103:7,11 119:4	45:16,19,25	73:3 124:2	218:2	152:2,20 153:7
119:8,10,19,23	70:15 71:10	125:13 126:8	looked 49:12	160:9 170:15
120:3 132:1	108:25 123:6	126:21 127:10	76:15 114:15	171:4 174:8,19
letters 85:16,17	123:23 124:10	127:25 128:2	120:17,19	174:25 175:7
87:13 102:25	124:23 127:22	132:18 180:25	122:15 131:1	181:9 185:7,11
103:18	159:22	181:2 212:11	143:1	185:15 196:24
level 14:21 22:25	listing 112:1	locations 14:12	looking 14:9	197:19 203:8
90:18 104:5	lists 71:24	29:24 80:15	15:5 20:25	204:3 206:3,5
140:21 141:7	literally 9:7	120:17 128:4	24:16 33:3	206:25 209:19
146:4 167:12	litigate 87:9	129:5 130:13	39:18 41:3,8	214:17,25
levels 138:22	litigation 64:19	locked 168:11	45:11 50:5	LRG 14:7 17:13
<u> </u>	I	I	I	I

				1490 250
18:2,11 19:20	Mall 2:5	24:13 26:12,24	215:7,13	105:17,22
28:6 31:4,16	manage 110:22	28:20 29:6	meaning 63:19	118:24 120:10
37:16 40:24	166:9	31:13 33:20	91:15 115:25	121:16 130:23
55:11 65:12,22	management	35:6,11 42:19	171:11	132:11 134:7
81:20 82:17,19	19:23 84:10,17	63:16 64:12	means 69:4	144:2,14,18
101:8 104:13	109:20,22	72:11 87:2	166:10 172:15	149:6,13
104:22 105:3	112:18 137:10	89:1 101:17	172:24	155:24 156:2,7
123:6,11,12,20	153:7 166:19	102:24 103:15	measurable	169:25 193:3
134:20 196:4	171:16 187:6	116:23 117:4,7	66:14	195:17 202:15
197:13 200:12	189:2 192:10	117:11 121:24	measure 22:11	202:18 205:23
lthompson@t	204:16	141:23 143:15	23:8 33:21	208:17 210:13
2:15	manager 26:15	146:1 151:14	59:23 144:10	211:16,19,22
Luna 15:11	27:8,15 189:5	152:1 156:19	207:18	212:1 213:11
	211:7	158:19 160:19	measured 42:11	213:13,18,22
M	manages 110:21	168:16 170:15	42:16	215:11,25
M 2:1,4,13	managing	171:2 175:2,7	measurement	216:14,17,21
ma'am 24:1	153:10 202:4	181:9 193:15	14:2,24 29:18	217:1,5,12,22
37:18 72:15	manner 79:9	193:16 203:7	30:11,22,25	217:1,5,12,22
84:12 103:17	173:16 174:2	206:4 214:14	43:3 61:5,6	member 99:8
214:3,8,11	manual 73:23,25	master's 14:10	76:19,24 79:24	101:17
Machine 1:13	74:13,17 75:1	215:17	79:24 80:1,6	memo 51:25
magnitude	75:4 206:19	masters 14:5	80:15	55:4 121:5
32:24	map 16:20 17:4	20:4 23:15	measurements	211:12
mail 103:12	17:5,8,11,17	24:6,23 64:12	29:23 76:2	memorandum
mailed 64:6	17:22 18:6,15	67:24 73:14	measuring 61:3	52:5,9 53:1
mailings 61:23	18:17,19 25:21	74:16 75:17	meet 8:18 93:20	121:2,8,18
maintain 54:9	25:22 40:14,14	87:8 156:12,17	99:8 101:17	122:11 130:4,6
60:10 61:2,5,9	40:17 136:23	156:22 157:4	154:15	130:8,10,12
192:6,14	137:21 145:11	207:2,22 214:9	meeting 8:18	131:2 210:24
maintained 59:8	maps 16:24 17:1	match 116:4	30:19 108:11	211:3,6
77:19	71:14 112:16	matter 1:11 4:10	meetings 61:25	memorialized
maintaining	114:8,11,13	48:10 56:15	137:2 148:5	111:19
84:1	127:15,16	170:5 189:15	159:24 160:1,2	memory 116:20
maintains 27:21	March 57:2,25	matters 6:9	160:4,4,5,6,10	122:8 138:24
maintenance	61:17 62:9	maximum	MELLOY 1:11	157:1
57:3 128:5,12	200:23	197:25 198:21	4:1,11,15,19	mention 102:24
152:8	mark 69:4,7	maximums	4:1,11,15,19 4:23 5:1,12,15	108:17 123:17
major 18:22	· · · · · · · · · · · · · · · · · · ·	194:5	· · ·	108:17 123:17
21:3	marked 5:7,10 5:20,24	mean 25:8 34:21	6:3,13 7:3,23 8:1 9:11,16,22	mentioned 15:3
majority 90:17	3:20,24 master 1:11	42:13 83:4	10:2,8,13,19	22:9 28:5,19
159:13 174:11		86:6,21 94:20	10:2,8,13,19	
186:21	13:20,24 14:1	<i>'</i>		32:5,17 48:14
making 28:1	14:3 16:4,9,10 16:15,19 17:13	100:15 104:5 111:15 124:18	12:4,7 13:7	49:6 57:16,23 62:16 68:21
29:3 53:6			25:19 45:4	
94:17	17:14 18:1,16	140:2 161:2	82:1,14 83:3,9	69:9,10 75:4
malfunction	19:5,7,21 20:3	172:9,11 173:6	83:11 86:4,14	77:15 89:5
84:3	20:6,23,24	173:8 182:17	88:8 100:9	107:18 111:13
04.5	22:4 24:2,12	188:15 206:16	104:3,9,15,24	118:9 122:14

133:17 138:7	23:11 30:17	44:16 45:1,4	142:4	164:4
182:1 191:18	55:10,15,23	62:2,23 68:12	midway 166:8	month 9:4 69:2
mentioning	56:10,18,24	69:24 70:2,7	migratory 128:1	81:9 165:10
157:15	57:8,15 58:1	74:1 76:20	mile 72:13	monthly 67:14
merge 103:12	58:15 60:14,16	80:2,21 81:10	miles 17:16	67:16
Mesa 17:24	60:19,23 61:18	81:23 82:17,22	million 142:1,2	months 8:20
Mesilla 40:25	61:20 62:3,14	83:16 85:8,24	142:10,15	165:11,12
152:24 178:3	62:18,21 63:1	86:18 87:17	Miltenberger's	morning 4:13,18
met 48:3 80:19	63:6,15,19	88:3 96:9	5:10,21	4:21 13:15,16
94:9 159:6	67:7,8,21 76:1	99:15,20 100:5	mind 110:18	82:10 217:7,8
188:20	76:15,17 77:1	100:22 103:2	173:22	218:8
meter 23:13	79:21 80:8,20	103:24 105:2	minor 15:15	motion 116:22
29:21 30:15,16	90:20,20 101:2	105:12,15	157:15	Mountains
36:20 57:5	138:2 144:9	106:17 108:18	minus 30:16	17:23
58:4 59:3,9,15	147:9,13	111:3 113:19	76:12 77:19,22	mouse 74:23
59:20,22,24	160:15 192:17	113:21 114:19	minute 184:25	move 5:4,6 27:6
63:20,20 65:3	192:19,25	116:15,25	minutes 152:11	30:1 45:1
65:8 66:8 67:9	meters 29:21	119:1,2,5,10	156:4	75:15 81:23
67:16,22 68:17	55:11 57:4,17	120:8,25	minutia 86:8	85:23 86:5,16
68:25 69:6	57:20 59:4,7	121:14 130:3	104:5	87:16 88:2,10
70:11,22 73:19	75:16,18 76:11	130:17 131:10	mischaracteri	100:4 101:20
73:21 74:5,7	77:7,8,13,16	132:7 133:8,11	205:22	102:7 103:23
75:13,16,22,23	79:3,8 84:2,5	134:4 135:14	mischaracteri	104:4,6 105:1
76:10 78:6,22	85:4 86:7	136:2 141:16	193:2	105:14 107:13
79:5 80:23	167:4,18	141:25 142:7	missed 119:3	116:11 118:19
81:3,8 83:17	methodology	142:13,18	167:21	120:7 121:13
83:22 84:1,3	122:17	144:24 145:10	missing 136:10	130:17 132:7
84:22 85:3,7	methods 165:23	146:8 149:9,19	170:21	134:4 136:18
85:12 86:5,12	Mexico 1:6 2:12	153:5 157:21	misspoke 57:9	213:9
86:21,25 87:3	4:3,15,18 5:6	170:8,13	misspoken 158:9	move-from
88:16 97:2,7	6:8,19 7:13	173:13,21,24	mistaken 60:17	50:23
124:5 137:5	8:19,25 9:19	181:15 201:2	mobile 32:7	move-to 50:24
139:12 157:18	10:1 11:8,9,9	202:10 203:6	model 59:5,22	moved 115:2
160:23,25	11:10,10,12,13	206:13,22	75:24 183:10	moving 26:22
161:6 163:17	11:13,15,15,17	207:3,22	183:13,16,17	27:1,12 28:18
164:12,16,25	11:25 12:1,8,8	208:24 210:15	183:20,22	30:18 35:14,16
165:6,14 167:1	12:8,10,11,12	213:10 214:1	modeling 46:15	64:1 102:19
167:3,9,16,19	12:13,15,16,17	217:4,16	47:8	137:6
168:4	12:18,19,21	Mexico's 35:5	modifications	multiple 61:2
metered 36:17	13:2,23,25	141:3 143:23	56:8	68:17 166:4
36:19 55:14	14:6,16,17	Mexico/Texas	module 73:19	168:9
57:1 65:12,17	15:9,13 16:21	120:21	74:5	multiplied
65:22,23 96:19	16:22 17:19,20	mgoldsberry	moment 177:6	150:12
96:24,25 124:4	19:12 20:16	2:6	monitor 151:4	multiplier 59:24
129:5 164:19	25:14 26:8	MICHAEL 1:11	monitoring	75:24
168:7 179:15	31:11 32:3,19	middle 50:18	140:15 145:11	multiply 97:4
metering 14:24	33:9 39:24	81:7 109:3	145:12,19	139:16

				. Tage 210
multiplying	140:7 178:8	100:4,22 103:2	90:8,10	number 21:6
147:25 150:3	179:19 201:11	103:24 105:2	north 40:22	23:2 44:3
municipal 31:24	210:18 217:2	105:12,14	northern 17:16	45:14 48:15,19
32:9 33:7	needed 179:25	106:17 108:18	40:21	49:20,22,24
65:15 67:12,16	183:12	111:3 113:19	northwest 18:7	53:22 59:23
91:7	needs 78:6	113:21 114:19	notated 68:25	65:18 71:25
municipalities	164:15 192:14	116:14,25	notation 53:24	75:24 76:8
32:1	negligible 66:16	119:1,2,5,10	64:2 97:19	82:6 83:2
mute 88:7	negotiated 194:4	120:7,21,24	note 53:3 89:1	105:25 106:2
105:19	208:4	121:13 130:3	93:9 123:5	107:6 109:19
muted 82:5	network 140:15	130:17 131:10	135:13	112:9 136:6
mutual 21:6	never 178:15	132:7 133:8,11	notes 213:15	139:15,19,22
31:24 32:4	204:2	134:4 135:14	215:20	141:25 142:8,9
33:9	new 1:6 2:12 4:3	136:2 141:3,16	notice 6:16,24	147:4,19 148:8
mutually 128:11	4:15,18 5:5 6:8	141:25 142:7	53:4 63:23	148:20,20,23
	6:19 7:13 8:19	142:13,18	64:5,11 78:19	148:25 149:3
N	8:25 9:19 10:1	143:23 144:24	79:16 84:9,13	149:24 150:14
N 2:1	11:8,9,9,9,10	145:10 146:8	84:14,18 85:13	152:14 161:11
name 10:10	11:12,13,13,15	149:9,18 153:5	86:22 92:23	162:18 164:8,9
24:21 26:15,17	11:15,17,24	157:21 170:8	93:11,12,14	165:2 180:24
112:15	12:1,7,8,8,9,11	170:13 173:12	94:20 95:1	185:21,22
Nancy 27:15	12:12,13,15,16	173:21,24	98:19 101:11	192:2 195:1
narrative 144:1	12:17,18,19,21	177:16,20	101:11,12,14	211:17
NASA 32:14	13:2,23,24	178:4,7,20	101:21,23	numbers 98:20
nation 142:14	14:5,16,17	179:1,25	102:3,6,24	98:24 107:14
national 17:25	15:9,13 16:21	181:15 201:1	103:15 107:11	112:10 122:6
142:9	16:22 17:19	202:10 203:6	111:24,24	141:19 142:19
nature 11:2	19:12 20:16	206:13,22	112:5,8,13,23	149:17 150:18
29:17 74:20	25:14 26:7	207:3,22	114:2 129:18	165:12 179:21
86:12 168:7	31:10 32:3,19	208:21,24	131:14 134:20	
necessarily 32:9	33:9 35:4	209:13 210:14	166:5,14	0
33:16 76:5	37:15,16,20	213:10 214:1	186:15,17	O 2:1
162:23 179:10	38:22 39:24,24	217:4,16	196:6,6 200:21	object 205:20
184:13 187:12	41:23 42:3,5	NM-0758	notices 93:4,8,17	objecting 7:23
191:8 193:7	42:22 43:1,10	211:21	94:3 98:25	objection 8:2
199:22 208:7	43:15 44:16	nomenclature	106:8 113:5	9:5 25:18 45:3
necessary 20:24	45:1,4 46:8,16	196:9	196:23 200:16	81:25 82:5
21:24 24:12	47:17 48:7	non-domestic	notification	85:25 86:2
112:7 114:6	55:7,8 62:2,23	52:7	97:21 118:16	88:4,5 100:6,7 103:25 104:1
116:1 195:2	68:12 69:24	non-EBID 34:14	154:14,18,19	
necessity 164:20 need 10:2,9,14	70:2,6 74:1	34:16,21	notified 116:24	105:16,18,21 118:21,22
10:22 20:9	76:20 80:2,21	non-functioning	notify 61:20	120:9 121:15
29:5 45:19	81:10,23 82:17	84:2	78:9 99:6	130:19,21
56:5 59:11	82:22 83:16	non-wasteful	notifying 64:6	130.19,21
78:9 104:4	85:8,24 86:18	191:18	85:6 131:16	143:25 193:1
109:9 122:5	87:17 88:2	noncompliance	NOVEMBER	195:14 210:10
107.7 122.3	96:9 99:15,19	64:5 89:17,22	1:12	173.17 210.10

				. I dgc ZII
213:11,12	80:23 84:4,7	34:25 40:13	187:2,14	operating 29:19
215:10	84:19 85:21	41:1 47:23	188:21,24	30:16 59:5
objections 6:20	89:17 99:24	55:10 57:14	189:8,11 190:8	74:22 75:9
8:8,14 25:16	105:12 111:25	63:11 67:15,22	190:10 191:12	76:13 79:9
217:18	113:8 116:24	69:9 73:11	191:23 193:6	operation
objectives 137:4	117:12 119:12	74:6 75:14	194:19,22	111:14 128:5
objects 8:25	121:11,25	76:20 78:4	195:10,25	152:7 164:17
obligation 81:8	128:23 129:6	80:20 83:8	196:22 197:1	opinion 144:22
observations	130:15 132:5	86:17 87:14	197:22 198:6,9	212:21,22
138:24	133:20 154:7	90:14,19 92:8	199:20 200:2	opportune 6:11
observe 159:16	154:19 157:15	92:11 94:11,19	200:11,19,25	opportunity
observed 159:11	168:25 169:19	95:6,14 101:7	201:17,23	216:4
159:20	169:21 186:9	103:2 104:24	202:3,17,23	opt 189:3
observing 159:9	186:12,19,20	108:16 111:9	203:12 204:10	option 107:24
obtain 84:24	209:16 219:16	113:9 116:11	204:18 205:18	109:5,19,25
87:7	office's 125:24	122:14 123:1	205:18 207:2	110:2 165:22
obtaining	official 17:1	123:10,17	208:24 209:10	options 50:14
165:20	45:15 85:20	124:6,21	211:2,5,9,15	99:9 101:18
occasion 87:11	99:23 103:20	128:13 135:13	211:19 212:6	107:17 108:23
148:5 165:12	105:11 121:10	136:14 138:25	213:3,8	109:1
occasions 152:6	130:14 132:4	140:1 141:8	old 74:12 75:5,7	order 19:4,9,14
166:24 168:19	133:19	143:16 145:9	184:5	20:11,20 22:4
210:5	officials 119:15	146:15 147:11	once 51:13 54:5	24:8,11 30:17
occur 42:22	159:21	149:13,19,24	67:22 163:13	32:23 33:14
198:11,12	offline 65:19	150:14 151:24	163:16 188:24	37:10 38:5
occurred 60:8	offset 39:5 42:12	152:17 155:6	189:21 190:10	40:7,19 41:4,9
106:16 163:5	42:13,16 43:8	155:23 156:14	190:22 191:12	41:10,12,25
163:20,23	43:11,13,16,22	156:21 158:1,5	191:23	42:15 55:15
182:3 198:4	44:12 47:22	158:21 159:4	one-page 107:20	56:4,10,12,16
occurring 42:25	48:5 208:25	159:11 161:8	108:21 201:16	56:17,18,20,24
108:3 111:18	offsets 43:1,5,7	162:7,12	one-year 140:20	57:8 58:1
139:9 151:23	46:13 47:2,13	163:13 165:23	ones 151:8	60:14,16,19,22
occurs 94:24	47:14,18,24	170:19 171:7	ongoing 6:17 7:7	60:24 61:15
101:8 104:23	48:8 173:15	171:14,23	8:9,11	62:3,5,10,14
153:15 212:25	174:1 208:20	172:3,9 173:6	onion-produci	62:17,19,21
October 5:21	209:7	173:8,12 174:7	142:17	63:1,15,19
67:12 83:24	oh 92:6 150:9	174:16,23	onions 142:14	64:20,21,25
201:11	159:1,20	175:2,7,23	online 28:3	65:3,7,8,10
offer 217:8	163:25 167:11	177:7,25 179:4	65:20 69:19	67:16,21 76:1
office 6:6 13:21	170:20 183:10	179:14,17,25	onset 37:19	77:1 79:15
15:20 16:3,11	201:17 211:18	180:14,18,21	Oops 119:2	84:24 87:7
17:2 25:4,7	211:24	180:24 181:4	open 36:1	88:18,20,22
26:19,22 27:24	okay 4:11 5:16	181:15 182:4	opened 16:12	89:4,7,9 90:2,4
29:7,10 48:19	6:13 9:22 12:5	183:3,12,25	operate 30:23	90:12,13 92:9
54:10,11 59:2	13:7 15:2	184:21,25	42:22 166:5	92:12,14,21
60:3 61:20	16:17 22:2	185:4,10,15,23	operates 82:19	93:2 98:24
67:23 69:17	26:7,13 30:24	186:1,18,23	140:16	102:9,10,21
	-		-	-

				Page 242
110:10 112:3	24:3	owner/operator	83:18 86:19,19	116:8
112:15 115:14	overview 136:7	166:4	88:10,11,23	parcels 114:8
125:21 130:2	OWMAN 84:10	owners 22:16	89:3,15,23,23	parenthesis
131:17,23,24	84:18 96:13	59:12 61:2,9	99:16 111:22	11:19
132:2 133:8	109:24 110:8	61:20 78:13	113:22 121:20	Park 18:25
138:6 163:2	110:11,13,17	81:7 84:15	122:10 123:4	parks 32:8
171:23 197:10	110:18 111:5	85:5 86:23	123:19 124:6	part 23:24 33:20
ordered 24:10	111:10 113:5,9	92:21 103:13	124:21 125:8	34:3 36:24
orders 23:6	113:14,24	106:9 107:22	126:3,16,16	39:15 44:17,21
55:23 56:2,3	114:9,21,23	131:5 164:9	127:3,12,14,21	69:5 80:12
61:19 62:15	115:3,5,7,15	166:22 170:23	128:14 131:23	81:16 84:8
67:8 76:15	115:18 116:9	199:19	133:22,24	87:24 100:2
77:1 91:10	116:11 138:10	ownership 39:1	136:6,21,22,24	103:20 109:3
137:16,16	152:11,15,18	42:4 46:18	136:24 137:2,6	112:2 116:9
169:12	152:18,25	52:15 53:13	137:10 139:2	134:24 140:17
Organ 17:23	153:4,17,25	84:10,17	145:11 146:9	141:12 150:2
organizational	154:10,23	109:19,22	149:9,19	151:13 162:12
25:3 26:5	155:3,8,14	116:3,5 137:9	169:17 170:19	166:8 176:21
organizations	165:24 166:10	153:6 166:19	171:24 203:6	182:4 192:8,10
160:1,7	166:23 168:23	187:18 192:10	210:15,19,22	196:11 197:6
original 1:1 4:3	184:24 185:6	owns 59:25	211:15,25	215:17
52:19 53:15	185:15 186:4,8	110:20	pages 63:3 89:8	partially 94:2
56:4 104:11	186:16 187:3		103:3,6 127:12	participant
115:3 116:21	187:15 188:24	P	201:12 219:6	197:23
178:24 184:4,5	189:8,13,22	P 2:1,1	paid 15:20	participate
191:3 207:21	190:11,17,22	P&M 32:12,12	Palomas 209:14	80:10 159:15
originally	191:12,23	32:17	209:20,24	participating
177:14 178:25	192:12,15,25	p.m 218:9	210:2,7	99:1
190:16 191:7	193:13,14	packet 102:11	paper 60:2	participation
originating	196:20 197:2,4	page 3:3 14:9	paragraph	116:6
110:10	197:17,17,22	16:17 19:1,10	20:19,25 21:2	particular 30:15
OSE 112:10	owned 152:23	19:14 20:12,17	21:20,21 22:2	31:1 36:17,24
187:15	owner 42:9	20:25 21:18	22:6 57:11,14	46:14,19 47:6
out-of-priority	46:21 59:20	22:2 24:9,9,15	57:15,16,19	53:2 63:17
172:4 173:13	63:23,24 64:6	26:8 30:1	58:25 59:1,17	70:21 72:10
173:24	64:10,22,24	31:11,12 39:11	59:18 77:15,16	78:16 82:25
outlined 53:22	65:1 79:17	39:12,14,18	77:23 78:5	87:20 91:4,18
outside 31:25	83:25 84:21	40:9,9,13	111:10 112:1	95:8 96:16
37:2,6 203:11	89:22 90:22	51:22,24 52:9	170:21 171:1	98:17 101:24
outstanding	95:22 98:18	53:4,8,9,17	171:23,25	107:5 114:20
85:4 86:25	99:6 102:12,14	55:18 56:19	172:3 210:16	124:11,12,17
167:19 168:19	109:8,16 110:1	57:10 60:22	212:8,9	131:5 133:24
overall 113:17	110:20 114:3	62:4,24,24	paragraphs	143:14 147:13
143:20 157:19	127:23 154:5	70:7,14 74:6	20:13 21:9,11	150:7 152:15
overlap 7:17	163:20 166:15	75:4 77:6,14	56:21 88:11	154:23 162:17
oversee 20:15	166:22 184:6	77:14,23 78:4	paralegal 170:9	189:14 192:1
overseeing 14:2	187:6 189:3,7	78:5 80:22	parcel 110:25	200:6
	l	l	l	l

				1490 213
particularly	23:16 75:18	190:16 191:7	107:18,20,24	121:14 122:10
6:18 13:5	157:9,10	192:20 193:8	108:17,22	126:3 130:4,18
82:17 136:4	performance	193:16 199:6	109:20,22	131:11 132:8
142:6 153:11	82:22	perpetuity 54:16	152:15,18,25	133:11 134:5
212:11	period 64:18	person 163:14	154:23 155:3	136:2 139:1
particulars	90:10 137:14	personally	155:14 168:23	142:25 184:25
89:13	140:21 151:5	186:20,22	185:6 186:8,16	200:13 210:16
parties 4:4	158:14,15	personnel	186:18 187:3	210:20 211:15
134:15 207:20	182:6,10	215:15	187:16,23	plot 107:7,8
219:10,14	197:25 198:10	perspective	188:4,25,25	plots 139:21
parts 17:24	199:15 202:5	120:14 134:14	189:6,8,13,15	plus 30:16 76:12
110:13 153:8	periodically	163:3	189:22 190:6,7	77:19,21 96:16
153:11	77:10,24	petition 65:9	190:11,13,18	141:23
Paso 71:20	periods 157:3	102:19	190:22,25	point 7:6 14:14
72:12	167:20 180:12	petitioned 88:20	191:1,6,12,23	35:3,13 48:1
passed 19:24	180:13	132:19,22	192:3,10,15,25	50:19 51:4,5
pay 158:14	permanent 36:2	phase 82:7,12,21	193:13,17,18	63:17,22 65:5
PC 2:4	permission 5:8	86:3	201:5,7 202:7	68:4 78:21
pecan 93:12,15	5:25	photo 30:10,18	planning 7:20	83:6 85:4 87:1
160:10,12	permit 23:7 29:1	photograph	plans 166:23	98:2 100:21
pecans 141:24	44:4,7 47:1	30:19	186:19 193:14	101:20 102:3
penalties 89:16	51:22 52:6	physically 87:3	197:3	107:15 109:10
89:19 90:7	53:21,24 54:13	168:9	play 198:16	122:24 124:4
penalty 89:20	54:15 58:22	picture 30:8,9	please 4:6 5:14	124:14 125:14
90:11	67:19,19 72:25	pictures 30:7	5:15 10:4 15:7	126:22 127:17
pending 209:12	88:16 116:2	122:21 127:13	17:12 19:2	139:18 148:7
people 97:23	153:23 175:19	134:2	20:12 24:15	149:1 155:25
101:19 103:8	178:8,16 179:1	pieces 161:9	30:1 31:11	156:3 166:18
108:11 152:8	179:10 180:1	place 48:23 49:2	33:2 35:6 38:3	177:20 178:5
164:25 167:23	180:16,22	50:15 56:7,13	39:12 41:2	178:19 182:22
peppers 142:8	190:9,11,23	100:19 109:10	44:16 45:2	191:24
percent 28:24	191:13,24	113:3 115:8	48:11 50:1	points 14:16
30:17 31:22	192:17 193:12	128:10 144:9	60:12 62:3,24	23:4 36:8,18
33:6,11,14,18	201:25 202:4	145:3,7 171:19	70:8 74:2	37:13 70:17,19
47:22 58:15	214:10	180:16,18,19	76:22 77:24	71:5,12 128:21
66:20 67:4,4	permits 27:10	180:21 181:1	80:3,22 81:11	128:23 129:8
72:4 76:13	28:12 43:4,21	190:3,12,23	81:24 85:9,24	129:12 181:11
77:20 79:11	44:11 47:12,16	192:20 193:8	86:19 87:17	191:15
97:10,19,20,25	47:19 49:24	199:15 201:9,9	88:3 89:24	Police 133:8
98:2,3 142:4	91:9 176:4,22	206:12	96:10 99:16,20	policies 204:19
158:3 168:3,14	177:9,13,16,19	placed 172:17	100:5,23 103:3	204:25 205:5
168:16	178:3 180:15	173:2	103:24 105:15	205:12
percentage 73:9	181:7 190:1	places 23:5	106:18 108:18	policy 204:23
158:1	192:22,23,23	29:24 181:12	111:4 113:22	206:19
percentages	193:23 208:22	Plaintiff 1:4 2:3	117:15 118:20	pooled 185:6,13
58:13	permitted	plan 79:19 84:17	119:1,2 120:8	187:6,11
perform 22:5	157:25 188:18	102:4,6 106:10	120:12,25	193:17 197:3
	<u> </u>	I	!	!

	·	-	·	. 1
pooling 186:4	175:14,25	170:23 175:14	214:5,5,24	194:20 206:15
197:18	178:2 195:3,5	175:25 189:18	proactive 81:2	206:18
pop 98:1	195:6,12 209:6	preventing 90:5	137:4	processed 45:23
pops 163:18	pre-declaration	prevents 173:16	proactively	196:11,14
portion 40:25	195:8	174:2	80:24	processes 106:22
73:19 108:13	pre-project	previous 14:18	probably 86:15	114:22 144:8
142:3,16 188:9	34:23,24,25	60:24 76:6	136:12 157:1	145:3,5,6
portions 151:20	35:8,21 125:3	107:5 130:11	163:25 178:18	processing
197:4	126:9,12	140:22 141:7	179:18 212:5	209:16
position 16:2,6,8	128:21 129:2	141:19 143:10	problem 21:16	produced 142:1
16:11,12 19:6	precise 71:9	146:14	problems 152:5	142:10
19:21 157:6	predates 173:11	previously 11:7	procedural 8:3	producing 142:8
positions 26:17	preliminary	41:2 44:14	procedure 91:1	production
possibility	4:10	62:16 170:10	99:14 114:23	141:18 142:1,4
162:13	premature	primarily 14:13	162:8,12 188:3	142:14
possible 89:16	82:11	23:3 28:22	188:5	professional
107:22 120:3	preparation	29:9	procedures	13:17 15:4
122:5,20	29:10	primary 30:3	63:12,14 73:24	program 74:12
165:19	prepare 23:25	31:16,20 71:25	74:17 99:11,16	92:20 93:7
post 43:21	44:19,21 85:16	109:1 160:25	99:21 100:2,11	96:13 110:8,10
post-basin 44:11	102:15 103:18	165:21 174:12	162:10	110:11,14,17
45:24 46:12	111:7 128:14	174:13,16	proceed 9:13	110:18 111:11
post-project	130:4 133:14	193:15	13:9 83:13	113:9,14,24
212:14	135:16,17	prior 21:25	86:8 156:8	114:21 115:15
postcard 81:5,6	143:16 159:4	62:14 69:10	proceeding	152:12,18
81:14,15 83:17	prepared 105:9	76:25 145:3	29:11 90:16	153:4,7,17,24
83:21 84:8,23	121:8 135:10	153:18 162:20	proceedings 1:9	153:25 154:10
potential 39:5	141:9 162:18	175:10 177:11	1:13 218:9	165:24 166:19
89:18 120:20	163:1	177:13 178:13	219:8	197:17 207:14
152:5 164:18	prepares 85:15	178:25 179:19	process 16:5	progress 107:10
176:13 182:19	preparing	182:7,13,24	27:25 47:10	108:14 136:18
203:3 208:10	134:25 208:3	194:23	52:8,25 62:21	prohibit 153:3
potentially 6:23	present 28:23	priorities 46:5	62:22 69:5	project 33:22
118:4 164:9	135:13	priority 22:13	79:15 81:4	34:4 36:5,24
pounds 142:1	Preston 2:17	44:6 45:15,24	90:24 92:16,19	37:2,8,12
power 203:12,12	4:24	46:2 172:6,10	94:14 96:4	82:18,19 118:5
203:22	preston.hartm	172:12,14,16	102:8 106:12	120:6 125:14
practical 22:25	2:20	172:24,25	106:12,24	126:23 127:10
48:10	pretrial 217:16	173:9,17 174:3	108:3 109:16	128:5,24
practically 48:6	217:20	174:5,16,21,23	111:21 124:19	129:13 147:21
practices 110:20	pretty 17:15,21	203:11,13,19	129:18 131:8	150:25 174:21
pre 195:3	41:11 75:8,9	204:22 205:3	154:2,4 162:21	174:24 175:5
pre-1980 175:25	76:14 80:16	205:16 206:2	162:24 163:3	175:16 176:2,9
177:9,12,20	89:12 102:1	206:11,20,25	163:16 165:17	212:14,23
178:2	108:10 142:5	207:3,7,12,23	179:7 181:23	214:25
pre-basin 45:22	196:19,19	207:25 208:6	183:2,11	proof 46:21
46:4,10 47:20	prevent 22:1	208:12 213:25	186:15 188:10	194:16,18
	1	ı	1	<u>'</u>

196:23	189:20 191:19	140:7 180:22	164:22 165:3	169:15 216:4,8		
properly 20:20	public's 69:24	182:5,24	169:16,17,18	reading 23:18		
29:19 187:18	publication 53:5	183:19,23	172:23,23	23:19 59:25		
properties	154:6,22 155:1	186:5 189:23	173:22 178:24	68:4,7,10,17		
152:19	publicly-avail	190:5 197:18	195:19 197:9	68:25 69:1,2,8		
property 116:3	96:22	200:16	204:9,23	70:23 75:6,24		
127:23 152:23	published 52:23	pumps 121:23	207:21 208:14	76:4,12 80:23		
164:15	pull 19:10 31:10	purpose 7:5 20:5	215:3,5,13	81:8 83:17		
proposal 42:3,5	57:7 68:12	48:24 49:2	216:8,11	85:3,7,13 86:6		
proposed 38:25	71:16 74:1	50:14 72:1	questions 92:11	155:22 168:1		
115:2,24	76:20 80:2	130:10 160:25	144:13 160:8	168:11		
154:15 171:17	81:10 89:8	180:17	208:18 213:16	readings 36:20		
181:17,24	96:9 98:12	purposes 18:10	213:21 215:22	57:5 59:20		
182:11 183:6,9	99:15,19	33:5 55:13	quickly 55:25	66:9 67:9,22		
proposing 84:16	114:12,18	65:25 73:4	78:5	67:25 69:1,6		
112:11,12	120:24 125:17	96:13 147:22	quite 90:19	70:11 73:21		
protection 21:24	131:10 133:11	192:16 205:8	94:12 111:19	74:8 75:13,16		
21:25	136:1 140:18	205:15	165:2 178:18	76:6 81:3		
protests 53:2,6	145:17 170:8	pursue 102:12	quote 9:2 171:3	83:22 84:22		
prove 8:11 92:13	184:25 189:6	131:18	175:21	85:1 86:13,25		
92:22 112:14	200:13 201:1	pursued 88:17	quoting 173:19	87:4 97:2		
195:2 199:25	210:14,15	129:19		137:5 157:18		
provide 40:3	pulled 17:9	put 47:25 98:13	R	160:25 164:25		
46:21 59:9	139:3 140:10	115:7 128:19	R 2:1,1	167:20		
71:21 92:25	142:20 181:20	135:6 141:18	R-Y-A-N 10:12	ready 4:2 30:21		
93:21,24 95:1	189:9	148:9 190:17	radio 29:20	83:11		
112:16,23	pulling 145:15	212:5	61:25	real 140:19		
114:5 141:6,11	213:1	puts 188:24	raise 10:3	185:22		
143:17 176:12	pulls 70:3 213:3	putting 146:12	130:20	really 43:20		
194:6 195:1	pump 30:21	149:2	raised 118:7	45:10 46:8		
provided 92:23	35:15,18 66:2		119:18 134:10	60:20 74:14,21		
98:19 99:2	94:25 96:8	Q	134:16,19	82:6,8,11		
112:5 118:16	121:6 124:7	QA/QC 27:25	raising 120:3	87:12 181:1		
134:19 135:22	125:16 126:3	quantifies 95:18	RALEY 2:13	182:21 189:15		
166:5 193:22	126:18,25	quantify 135:6	ran 44:2,5	realtime 163:7		
196:13	127:4 128:2	quantity 58:18	random 208:18	reason 7:21 47:6		
provides 206:17	133:17 152:7	58:21 85:18	range 17:25 71:7	116:6 121:21		
provision 92:14	211:8	180:17	rank 142:9	187:25 188:22		
provisions 93:13	pumped 95:24	quarter 71:8	ranked 141:25	reasonable		
114:4 137:10	104:13,16	quarterly 57:6	142:13	49:23 78:13		
138:10 155:1	146:21	67:11 189:23	rare 210:5	reasonably		
208:9	pumpers 34:20	190:5	rate 30:12 42:12	39:23 61:12		
public 21:24	116:13 120:5	queries 44:3,6	58:12 78:16	reasons 115:22		
23:21,22,23	128:15 151:6	85:3 86:24	reach 78:9,21	187:16,23		
61:24 69:18	151:15,25	question 9:17	100:21 163:20	recall 35:20 79:2		
71:7 96:21	pumping 58:18	35:6 92:1	188:6 210:7	88:14 118:14		
186:15,15,17	104:18 125:9	156:16 163:7	read 167:4	119:9 124:11		
	<u> </u>					

				. Tage 210
124:12 125:12	46:13,15 51:25	74:8,18 75:1	regarding	remedy 82:7
127:23 129:24	94:18 102:16	90:25 91:14	150:23	86:2 88:6
130:1 155:6,22	recommended	106:11 148:3	regards 108:11	102:18
156:14 159:19	53:20	215:14 217:15	153:11 188:17	remember
161:8 182:1	reconcile 106:13	217:18	regional 31:25	123:20 124:7
200:14 202:1	135:5	reference 49:9	Registration	125:9 126:4,18
receive 64:11	reconciled	77:7 141:16	219:23	126:20 127:4
68:21 76:4	107:16 201:20	159:23	regular 75:16	162:9 181:20
85:1 86:23	reconciliation	referenced	219:10,12	210:17
90:4 96:3	106:12,22,24	14:15	regularly 76:14	remind 60:15
115:17 160:15	107:17 108:2,7	references 77:18	regulate 23:7	65:21 66:10
164:2	165:16,20,24	referred 34:18	170:22	81:7
received 15:14	record 10:10	34:23 50:11,20	regulation 22:20	reminder 81:6
51:13 53:7	39:8 46:6 81:3	73:19 109:12	regulations 23:6	83:17
67:22,25 68:19	85:20 99:23	116:12,16	28:15 29:2	reminding 83:20
69:16 78:19	103:21 105:11	153:20 184:17	66:4 157:21	83:22
93:8 94:6,10	121:10 130:14	referring 31:14	169:11 171:4	remotely 1:12
122:1 132:20	133:19 135:14	50:4 75:6	171:16,20	108:12
152:3	149:7 169:15	77:17 78:1	regurgitate	removal 133:24
Recess 83:10	195:6	84:9,13 95:11	148:25	remove 133:3
156:6	recording 49:13	147:15,17	reinstalled 78:22	removed 132:25
Reclamation	78:17 79:10	163:15 169:8	reject 187:15	133:10 134:3
22:18 116:24	105:25	198:5 215:6	rejecting 187:23	renegotiated
118:3,7,12,16	recordings	refers 167:2	rejection 188:3	102:4
122:2 134:10	23:13	refine 14:18	relate 123:12	renewed 189:9
recognize 16:24	records 11:19	reflect 6:1 96:7	related 6:10	rental 112:21
25:2 60:13	17:1 61:9	98:20 109:24	75:15 113:24	189:4
68:13 74:3	87:25 124:5,13	166:20 187:12	120:12	repaid 106:15
81:11 87:18	126:8 132:4	reflected 7:19	relates 141:24	198:3
106:19 121:1	166:16 183:23	96:15 116:4	192:7	repair 57:3 78:7
131:11 133:12	Recross 3:6	187:18	relational 73:20	78:9
210:23 211:2	216:2	reflecting	release 37:2	repaired 78:22
recognized	rectified 188:22	114:20	212:12	84:2
125:2 128:21	red 63:21 64:3	reflection 49:24	released 34:5	repairing 84:1
128:22 191:10	78:25 79:2,12	96:21,22 98:16	212:17,22	repayment 99:9
recognizing	79:15 97:20	110:19	relevance 104:1	101:18 102:4
94:23	107:7,9 139:22	reflects 49:23	130:21 132:9	106:10 107:18
recollection	149:25 150:5	111:14 141:18	relevant 82:20	107:20,24
36:16 47:14	150:10 152:8	refresh 122:11	82:21,22	108:17,21,23
88:13 117:24	Redirect 3:6	149:21	136:20	108:24 109:2
120:2 122:12	213:23	refresher 181:20	relief 88:22	109:18 110:2
149:21 151:10	Reduce 173:7	regain 184:8	89:25 90:5	198:7,12 201:5
recommendati	reduced 107:15	regard 41:15	remainder 95:22	201:7
54:1 102:22	reducing 199:4	56:12 121:6	remaining 73:10	repeatedly
154:8 176:11	reduction 109:6	144:22 148:14	97:12 108:8	116:16
recommendati	refer 14:7 48:20	152:19 160:8	remedies 104:2	rephrase 185:11
28:12 29:4	49:9 69:21	204:7 214:23	118:23	195:19
	-	-	-	-

replace 78:6	59:19 61:7	30:17 42:8	134:11 151:10	28:10 38:24
179:20	69:25 70:2	55:11,14 57:5	200:22,23	46:13 47:4,10
replaced 7:9 9:2	104:17,17	57:20 59:18,22	201:23	51:17 54:11
9:9 59:12 84:2	143:22 165:6	63:5 67:9,10	resolves 102:5	58:2 61:22
84:4 178:19	167:3,20	67:13 73:17	resolving 162:19	89:2 94:12,15
replacement	189:23	84:15,18 88:15	resource 19:23	94:23 113:8
48:22 49:1	reports 17:6,10	92:21 107:23	171:4,16	115:18 119:8
50:20 52:17	29:3 31:8	111:20 112:4	resources 20:5	154:7,14 161:7
53:12 54:18,20	67:24 134:23	132:24 170:21	respond 5:14	176:11,22
84:5 88:17	135:16,19	177:9,13,16,19	6:14 79:18	186:16,18
177:21 178:5	136:8,17	177:20 178:4	82:13,23 104:7	187:8 192:11
178:22 179:10	141:11,13	179:14 190:5	response 35:5	reviewed 6:25
181:18,24	143:4,17,18,21	194:16	62:18 64:25	41:12 46:3
182:20	145:20 146:12	requirement	65:1 84:22	48:18 94:11
replacing 182:21	149:2 157:17	52:24 58:21	102:2 122:1	116:19 135:24
report 14:25	157:17 159:24	60:8,10 101:16	responsibilities	186:19,21,24
22:12 23:9,25	164:23 165:1	112:8 178:16	215:18	reviewing 52:1
26:20 31:7,13	represent 16:20	189:22 194:18	responsibility	209:19
32:20,21 49:18	139:8 196:15	195:11	33:24 34:1	reviews 72:25
64:4 67:10,14	representable	requirements	54:2	113:5
85:12 101:13	135:7	23:11 56:23	responsible 24:3	riders 22:19
101:14 106:11	representation	57:3,4 59:1	25:10 61:13	right 4:7 5:1
106:25 129:6	40:18 107:4	60:18,20 61:21	83:25 157:12	6:13 9:16,22
130:11 133:12	representative	62:13 64:7	157:20 160:14	9:23 10:3,8
133:16 134:2	84:6	67:8,20 77:4	161:3,5 206:5	11:4 12:7 13:8
135:1,8,9,12	represented	79:22 80:8	206:8	13:8 16:22
137:11,15,24	148:12,15	90:20 138:2	rest 40:7,8	17:4,6 18:13
138:3,7,12,14	149:25	188:20 189:18	restate 91:25	18:15 22:16
138:15,21	representing	190:2	197:7 205:9	23:4,21 25:1
139:3,5 141:10	170:4	requires 57:16	restating 173:22	26:5 27:1,6,12
143:3,7,8	represents 147:5	59:19 99:7	restricted 73:16	28:14 37:15
144:10 146:3	147:20	154:13	restrictions	42:1,8 46:4,4,7
146:16 149:20	request 6:17	requiring 29:23	108:10	46:20 47:1,6
155:19,22	64:20 65:4	43:5	result 52:16	47:10 51:7,9
164:20,24	84:18 90:10	research 44:24	53:12 129:20	54:3 55:8,21
175:3	102:11,14	45:17 117:13	141:21,23	58:6 61:2,8
reported 1:13	115:18 203:16	researched	144:8	63:23 67:17
36:22 67:9	203:17,18,18	45:20	resulted 56:15	68:5 69:19
83:23 147:16	205:16	reservoir 17:18	results 30:14	71:17,20,22,25
Reporter 1:13	requested 50:6	34:5 35:2,9	44:8,13	72:2,5,7,9,10
219:4	requesting	36:6 212:13	resume 83:12	75:8 78:13
REPORTER'S	54:17 90:3	resolution 8:20	retired 42:15	81:7 83:11,25
3:9	require 46:20	201:8	return 66:22	84:15 85:21
Reporters	48:5 86:6	resolve 8:23	188:8	88:11 89:14
219:23	129:5 154:10	109:14 134:13	returned 67:1,5	91:11,14,21
reporting 33:13	190:7	resolved 56:13	review 6:25	92:21 94:12
57:4 59:16,18	required 23:24	90:15,17	10:15 27:10	95:16,22 96:14
	I	I	l .	I

96:17 97:5,12	191:2,4,11,16	114:21 115:2	204:3 206:3,5	running 209:24
97:15,16 98:7	191:21,25	115:23,24	206:25 209:19	runs 209:23
98:18 101:5	192:3,9,13,18	128:22 129:2,3	209:21,25	Russell 24:24
102:12,25	192:25 193:9	143:23 154:15	210:2,8 212:10	Ryan 3:4 10:1
105:5 106:5,9	194:9,24 195:8	166:12,22	212:13,23	10:11 13:11
107:6,22 109:6	196:16,17	170:23 172:6	214:17,25	
109:7,12,18	197:13 199:1	173:21 174:13	river 30:21	S
110:1 112:15	199:11,12,16	174:13,17	34:19 35:14,14	S 2:1
114:3 116:3,4	199:19 200:17	175:10,16	35:17 39:2	S-E-R-R-A-N-O
125:3 126:9,12	201:17 202:5,9	176:2 182:6	46:18 116:13	10:12
132:17,18	203:10,14,24	184:17 187:6,9	120:5,19 121:6	Sacramento 2:5
137:25 138:17	204:4,8,16,22	188:9 189:13	121:22 122:15	Salopek 56:11
138:18 143:18	205:3 206:9	190:1 192:8	122:23 124:7	Salt 25:12 27:5
144:18 145:1	208:5 211:12	194:4 201:21	125:16,18	Sands 32:14
146:8 148:17	211:13,24	203:10 204:3	126:3,18 127:1	Santa 15:8
149:5,13	212:15 213:18	204:21 205:1	127:4 128:3,15	18:25 77:11
153:21 154:3,5	214:2,4,6,10	209:6,18 214:9	133:1,17	Sarah 2:8
154:13,23	214:21,25	214:17	151:14,22	satisfactory
155:9,21	215:18 217:1	Rincon 35:17	152:7 173:15	129:19
158:24 161:13	217:10 218:1,4	152:23 178:3	174:2 183:4	satisfied 167:13
161:18,19,20	right-hand 17:8	Rio 13:19 14:7	211:8 213:1,4	satisfy 107:25
161:21,22	27:13 30:6	16:14,19 18:1	robust 86:12	112:8
162:3 164:8	50:24 113:24	20:6,21,23	role 6:4 43:2,3,4	saw 35:11 39:10
166:17 167:8	114:1 139:5	21:14,15 25:11	215:18	40:19 90:1
170:12,17,24	142:11	26:24 27:9,10	Rolf 117:16	101:2 107:4
171:5 172:1,15	rights 21:20,23	31:2,21 32:15	roll 178:2	116:21
172:17,25	22:1,14 25:10	33:21 35:1,2	rolling 24:9	saying 50:9
173:2,10,11,14	27:4,13,18	42:6 46:1 48:9	163:22	198:17
173:16,17,17	28:6,9 32:7	51:15 55:14,16	room 10:16	says 22:10 24:9
173:25 174:3	34:23,24,25	55:24 111:18	Rosa 15:9	27:2 60:5
174:17,25	35:8,21 36:17	117:13 121:23	rotation 36:2	70:17 97:19
175:11,20	38:23 39:1	123:20 126:11	roughly 58:11	171:8 182:9
176:5,18	40:1 41:16	127:4 143:12	67:4 90:14	scale 176:14
177:10,14,17	42:4,4,14	143:24 144:5	185:25	scenario 95:12
177:22,25	43:11,15 45:22	147:20 150:24	routed 54:11	95:15 161:24
178:9,23 179:8	46:10,18 47:15	151:15 152:2	routine 148:11	scenarios 91:5
179:12 180:4	47:21,23 48:7	152:20 153:7	rows 68:24	scheduling
181:7,12	48:14,22 49:4	160:3,9 169:1	RPR 219:19	162:25
182:19 184:6	50:17,17 51:11	169:7,12,20	Rule 6:8 7:4	Schmidt-Peter
184:11,12,14	52:1,21 53:18	170:15 171:4	rules 10:15 23:6	117:17,25
184:16,18,24	54:3,6 55:4	174:8,19,21,24	29:2 66:3	school 15:8,9,10 science 15:14
185:2,6,13	69:25 70:2,8	174:25 175:4,4	157:21 169:11	science 15:14 scope 7:17
186:4,6,14,16	73:2 91:6,6	175:7,16 176:2	171:18 206:16	122:15
187:3,5,20,22	93:22 95:12,14	176:7,8,20	206:16 207:17	screen 17:8
187:23 188:14	99:1 109:21	181:9 185:7,11	208:8	25:21 50:2
188:15,16	110:21,21	185:16 196:24	run 85:2 86:23	75:11 83:17
189:3,6,21	113:10 114:15	197:19 203:8	103:12	/3.11 03.1/
	•	•	•	

				Page 249
170:13 208:19	30:9 31:19,23	173:8,10,16,17	169:15	141:6 143:13
211:22	32:3 33:4,8,13	174:2,24	served 125:15	146:19 149:3
screwing 170:9	33:17 44:6,11	175:16 176:2	126:23	176:13
scroll 127:12	45:10,13 48:12	182:6 203:10	serves 35:15,18	showed 44:7
se 94:21	48:15 50:8,12	203:16,18,19	116:20 122:8	46:7
SEAL 219:16	· ·	203.10,18,19	138:24 157:2	
	50:13,18,21,25 52:13 53:5,19	212:24 213:5		showing 18:20 25:23 30:8
search 43:23,25	· ·		set 26:10 65:5	
45:8	53:24 54:13,23	sense 54:22	76:18 79:25	45:7 63:9
season 113:4	57:10 60:25	171:11	87:5 167:17	105:24 106:2
115:10 135:18	62:5 64:1,16	Sensiba 24:25	186:8	107:2 108:5
139:16 140:22	65:1 68:25	sent 68:18 89:4	Seth 201:1	139:4 140:10
148:8	70:13 71:9,11	102:25 118:12	210:14	shown 17:8 19:2
second 5:12,15	71:16,19,23	119:10 200:19	sets 152:8	25:21 38:3,10
21:19 39:12	72:2,7 75:8	sentence 52:13	settlement 56:15	50:2 51:23
45:25 49:6	77:18 84:11	57:22 60:4	62:19 92:10	55:19 62:25
60:16 72:21	89:18 96:23	separate 28:15	112:2 114:4	99:17 113:23
83:24 89:15	97:18 98:1,22	28:15 87:16	137:7 138:6	shows 25:25
91:10 93:11	101:10 102:14	93:13 99:19	152:13 194:9	40:20 71:24
111:10,22	103:6 107:10	136:12 194:2	194:16	146:2
116:2 128:23	108:13,24	194:20	seven 26:1	side 15:6 17:9
129:7 133:22	110:23 115:4,6	separately	seven-year	24:17 26:23
136:12 149:6	117:18 123:8	114:19	146:9	27:13 30:2,6
202:10 213:14	123:24 139:11	September 7:12	Shane 142:12	50:13,25 53:25
second-to-last	139:13,21	38:8 115:9	shared 144:23	55:20 113:24
210:16 212:9	141:24 142:5	septic-type 67:2	sharing 111:17	114:1,14
second-to-the	152:8 168:5	serial 59:22	153:10,15	128:18 139:5
212:7	170:3 172:7,8	75:23	207:11	142:11
secondly 59:7	201:12 212:19	Serrano 3:4 9:20	she'll 217:6	sides 163:5
section 20:13	212:20 218:7	10:1,2,8,11,14	sheet 39:11	Sierra 20:22
39:19,19 40:2	seeing 55:22	13:11,15,17,24	short 21:10	21:16 38:13
52:10 60:24	seeking 88:24	14:21 16:24	shortage 21:13	41:6 142:2,15
70:15,16,20	seen 40:14 89:10	24:16 26:8	21:15 153:10	sign 85:17
71:5,7,8 74:7	103:4 108:15	27:18 31:15	153:15 207:10	signature 62:6
84:11 88:11	117:17,20	39:13 45:6	Shorthand 1:13	85:19
89:18,25 96:18	119:4,7 131:24	56:22 62:25	219:4	signed 19:16
sections 20:11	153:21 159:13	79:20 80:22	Shorthand/Co	62:10
26:22 41:8	206:23 209:9	83:15 88:9	1:13	similar 41:9
74:8 217:17,20	209:15	100:10 103:6	shortly 26:5	79:23 90:1,24
217:22	selected 16:5,13	103:10 104:20	46:22 119:11	101:1,6 109:11
secure 199:24	send 81:4,19,21	105:23 119:4	156:24	126:21 127:9
security 73:17	83:18 85:5	120:11 130:24	should've 9:8	143:1 196:21
see 8:22 14:13	87:2,12 106:8	134:8 136:3	should ve 3.5 shovels 29:17	similarly 82:11
17:17,21 18:6	107:11 166:14	144:3,22	show 11:7,20	202:9
18:22,24 22:9	senior 22:14	156:10 170:3	41:25 49:12	SIMMONS 2:4
24:21,23 26:13	24:20 42:14	170:12 208:19	73:12 96:15	2:9
26:14,21,23,25	87:22 88:25	213:25 216:22	122:6 130:12	simple 107:21
27:2,6,14 29:4	170:23 172:6	Serrano's 6:6,12	137:13 140:20	150:2
21.2,0,14 23.4	170.23 172.0		137.13 140.20	150.2

	ī			
simply 11:23	127:5,15,22,24	sorry 19:13 57:8	193:12	69:5 114:3
113:2,11	133:2,5 134:3	57:8 82:4	specifications	158:10 180:8
145:16 187:11	sites 29:18 118:2	88:10 91:25	76:17,19,24	standardize
202:4 203:18	118:3 120:16	105:20 109:3	80:1,6 157:24	73:23
Sing 201:5	122:4,13 123:2	119:1,3 150:9	specifics 31:1	standardized
single 32:20	123:6 127:19	170:20 194:11	specified 93:2	23:20 27:25
49:10 52:4	131:1	197:6 210:19	180:25	69:13
55:13 57:1	situated 82:11	210:22 211:18	specifying	standards 76:1
65:23 69:15	situation 78:17	211:24 213:15	101:15	76:24 80:16,18
70:22 89:2	91:14 107:22	sort 41:22 44:4	specs 79:24	standing 115:25
97:14 123:1	163:9 166:2,3	56:14 110:1	speech 156:16	154:16 187:9
136:8 138:15	166:7 167:2	164:24 188:17	spell 10:10	187:17 188:13
152:24	188:7 189:3	200:4 207:18	spend 28:23	188:16
sir 10:21 11:3	202:3 212:25	214:22	29:7 143:1	staple 142:6
147:10 151:8	situations 79:8	sought 89:25	spent 150:21	start 5:2 11:5
153:19 156:13	six 6:2 27:16	source 92:2,2,6	158:2	17:11 26:9
157:22 159:10	skip 62:2 119:2	147:23 148:15	spoke 26:25	30:21 48:4
160:20 162:14	skipping 170:9	149:24	spreadsheet	50:9 55:20
165:8 166:24	sklahn@soma	southern 17:18	98:13	58:4 74:25
167:7 171:13	2:11	18:24 35:16	spring 6:23	83:19 91:2
172:2 173:5,19	slash 121:23	72:11 142:17	113:19 135:18	113:4 123:5
174:11,22	slide 15:5 19:3	Spaceport 32:15	141:4	144:19 145:20
177:4 178:14	24:15 30:2	spatial 40:18	Springs 18:5,7	202:20
179:3,24	38:2,3,9,10	speak 8:24	18:12 25:13	started 10:13
180:20,23	56:22 62:25	208:20	27:11 123:7,11	41:14 117:4
181:8 183:1,18	63:11,13	speaking 48:7	123:16	138:23 140:12
186:11 187:8	100:23 106:18	special 1:11	square 17:16	141:12 156:15
187:21 189:10	106:19 108:1	29:14 35:6,11	staff 24:4,5,17	156:19 159:2
191:22 192:19	113:25 139:3	38:5	27:16 51:16	166:9
193:24 194:21	140:9,10 141:8	specialist 52:1,2	54:13 63:16	starting 17:16
195:24 196:2	142:25 143:6	53:5,20 209:18	68:3,23 73:18	35:9 63:13
196:14 200:24	143:10 146:14	specific 8:25	77:24 87:2,3	115:7
201:6 207:1	Sloan's 78:24	39:17 50:22	99:8 101:17	starts 63:15
208:23 209:15	small 15:10	58:18,21 59:21	114:12,12	state 1:3,6,6 2:3
210:3,20	46:16 56:8	114:8 118:7	117:22 155:7	2:12,16 4:14
212:20 213:2	168:7,20,21	120:17 133:1	156:11 157:9	4:18,25 5:5 6:7
sirens 101:13	smaller 32:16	137:24 153:12	158:6 160:14	6:8,9,19 10:1
sit 148:24	snapshots	160:8 176:12	163:9 165:10	10:10 14:6,14
185:22	140:23	177:5 188:19	167:4 169:3,6	15:13,21 16:3
site 30:21,22	SOMACH 2:4,9	189:17 191:25	169:6 196:22	17:2,19 19:4
31:1 70:1	somebody 51:1	207:16 215:8,8	196:25	19:17,18 20:1
122:21 123:20	51:2 97:25	215:14 216:10	staff's 151:19	20:14,16 21:12
123:23 124:8	192:9 203:16	specifically 18:3	158:2	21:22 22:3,13
124:11,12,21	213:1	21:13 26:11	stamped 68:1,22	23:6 25:4,6,21
124:23 125:1,2	somebody's	45:24 49:21	stand 77:3 188:2	25:23,24 26:2
125:9,10,12	163:18 168:10	60:22 73:5	205:24	27:24 28:11
126:4,7,18,20	sooner 163:22	137:8 175:21	standard 50:9	32:4,4,19 33:9
	1	1	1	•

37:18,21 38:16	21:10	straight 142:20	submitted 23:19	98:22 101:24
38:19,23 39:24	states 1:1 2:21	stream 20:21	28:11 36:20	106:23 111:4
40:23 41:4,19	4:4,20,22 13:3	21:14 29:22	51:10 60:2	114:15,17
41:23 42:23	22:18 40:4	39:2 47:9	76:9 84:19	116:22 127:12
57:11 59:2,6	52:14 77:24	66:15 92:7	97:2 111:24	128:14 135:11
59:13 60:3	170:4 171:1	140:18 152:13	113:1,6,7	138:11,16
61:19 62:11	172:3 196:8	153:18,24	167:19 189:21	143:2,7
69:14,17 74:10	statewide 27:22	169:3 181:25	195:4	Sunland 18:25
77:7 84:7,9,16	50:10 76:18,23	194:7,8,8	submitting 6:22	superiors' 146:6
84:19 85:20	77:11 79:24	215:16	59:21 69:2	supervised
87:24 89:16,22	80:1,5 171:18	Street 2:9,14,23	124:4 164:25	161:1
90:7 92:23	stating 22:3 61:1	stretch 120:19	187:12	supervisor 27:8
99:23 100:18	station 125:16	stricken 205:22	Subparagraph	51:14,15 52:3
102:19,20	statistics 141:17	strict 207:12,25	22:10	53:25
105:12 109:15	142:21,23	stricter 67:20	subparagraphs	supplement 9:6
111:25 112:6	status 72:1	strictly 108:16	61:1	184:4,7
117:21 119:14	130:12 131:1	204:6	subsequent 7:9	supplemental
120:21 121:11	163:21 211:7	strike 177:7	75:5 109:8	25:15 48:23
121:20 122:1	219:11	205:24	subsequently	49:1 51:1,2
128:22 129:4	statute 14:13,14	structure 155:5	9:3 94:9	54:18,21 56:16
130:8,15 132:5	14:18 169:13	stuff 82:8	186:24	62:14,17 63:1
133:8,19	173:18	sub 143:11,12	substantiate	63:15 79:14
135:20,22,25	statutes 22:8	143:14 168:13	93:1	91:16 140:7
136:6 142:8	169:11	168:13 172:4	substantive 8:2	178:22 183:25
153:8,11	statutory 20:12	206:4 209:20	substantively	184:1,3,10,11
154:19 166:6	20:15 33:25	sub-file 91:10	157:14	184:13,15
172:5 175:23	38:19 41:20	subcategories	successful	supplementally
178:10 180:9	49:9 153:13	33:8	162:19	146:25
183:3 184:7	189:18	subcategory	sufficient 109:13	supplemented
186:9 203:13	step 63:13,15,25	129:15,17	196:11	7:9 56:1
203:15,23	64:9,10,14,24	subdivisions	suggest 46:16	supplements
204:1,7,10,14	65:1 74:14	32:8	Suite 2:5,9,14,23	184:12
204:18,20,24	81:4 84:23,25	subject 39:4	13:22 219:24	supply 31:24,25
204:25 205:6	86:20,20	46:20 47:22	summaries 70:6	67:2 108:24
205:13 207:15	101:11,21	67:19 93:22	70:25 73:5	175:5 184:8
212:10,19,24	102:1,7,23	179:7 191:18	summarize	support 94:20
219:4	103:14 197:9	193:25 194:1,1	44:13,24 59:17	suppose 193:25
State's 20:4	step-by-step	205:4,16	124:18 130:25	SUPREME 1:1
stated 175:18	74:5	submission 93:3	143:22	sure 17:14 28:1
192:6 217:19	steps 43:25 63:5	155:2	summarized	29:18 30:15
219:5	63:9 81:2	submit 8:10 9:9	105:6	37:13 68:9
statement 40:3	95:10 101:1,8	57:5 81:8	summarizing	75:25 76:2
53:6 144:11	102:13 137:4	84:15,22 85:6	21:2 45:9	77:4 80:18
171:7 191:20	154:11,13	94:3 112:9,19	121:5 130:6	81:2 82:25
193:8 217:14	stood 45:10	114:8 135:19	141:15 211:7	86:9 92:2 98:4
217:16,20	stop 173:7	135:20 154:14	summary 70:8	104:7,11
statements	stopped 124:15	submits 187:5	70:11 71:17,21	106:14 133:9
L				

				-
134:14 151:21	surpassed 142:7	95:10,17,19	Teresa 18:25	156:14 159:5
151:22 152:9	surprise 8:12	110:6 131:4,7	term 148:2	159:23 163:4
154:15 187:9	surrounding	144:25 145:9	151:7 165:16	182:1 193:2,5
191:3 194:25	44:10	147:4 149:18	166:25 167:2	195:18 205:22
195:4 202:24	survey 71:7	156:3 217:9	184:19 192:17	216:23
205:10 207:17	sustain 144:2	218:1	213:25	testing 29:21
208:7 209:8,9	210:13 215:11	taken 29:5 30:10	terms 34:19	59:11 77:25
209:11,23	swear 10:3,4	30:19 43:17	45:15 50:23	84:6
210:25	switch 110:7	81:1 134:3	68:11 71:6	tests 76:10,14
surface 21:25	switching	179:23 192:2	91:11 106:3	165:14
30:22 33:22	155:25	219:11	137:7 145:12	Texas 1:3 2:3
34:4,14,16,22	sworn 13:12	takes 204:15	157:16 162:24	4:3,6,14 5:3,7
36:4,11 37:1	system 20:22	talk 11:5 15:2	164:25 168:22	5:19,20,24
37:12,16,19,20	21:14 35:17	96:12 152:11	169:1,20 174:6	6:17 7:19 8:7
40:3,4 50:17	45:23 67:2	157:8 161:13	207:18 215:5,6	11:6 12:14,22
50:23 51:4	68:24 69:25	165:15 166:25	215:9	12:23 17:19
52:16 73:8	70:3 71:7,10	184:24 190:4	test 30:13 32:14	82:24 116:14
79:21 80:1,5,8	75:5,7,9,9 92:7	200:11 203:3	76:11 77:25	116:24 119:5
80:15 91:15,18	97:23 100:19	217:2,7,10	tested 79:8	134:11 204:7
95:16 96:16	126:24 139:20	talked 51:11	testified 9:4	219:4
97:3,5,7,15	144:24 152:13	78:19 86:15	13:12 47:3	texting 11:1
114:16 116:8	153:18,25	136:23 145:12	55:3 66:7	texts 216:9
116:16,16,17	181:19,25	171:25 181:16	110:9 141:3	Thacker 5:4 6:4
116:25 117:10	182:13 183:5	183:25 185:1	142:12 156:11	6:5 7:21 9:4
119:21 120:6	194:7,8,8	200:13 201:3	157:23 158:5	27:8 28:6,10
122:5 123:12	206:12	talking 81:15	159:8 160:13	Thacker's 5:23
124:3 125:6,24	systems 15:16	93:6 137:8	162:15,17	7:8,12 9:1,6,9
126:10,13,23	31:25 74:22	149:8 154:18	195:15 196:3	Thank 6:15 9:15
128:8 129:16		171:10 176:15	204:17 214:7	9:25 13:10
131:21 132:18	T	192:22 195:7	testify 14:22	33:20 57:9
133:24 134:9	T 2:1 62:22	tallying 31:4	43:25	62:4 65:11
139:10,14,24	table 44:17,19	task 77:12	testimony 5:10	82:2 83:9,14
140:2,6 146:11	45:7,9 73:20	tax 37:9	6:11,12 7:8,12	95:13 102:23
146:20 147:2	105:5,9,24	tech 26:18	9:1,2,6,6,8,10	109:4 119:3
147:20 149:22	106:2 107:5	technical 94:16	9:13 10:5,17	156:5,9 169:23
150:6,12,23	136:20 143:7	210:11	10:24 18:10,12	169:25 171:24
161:24 175:4,9	tag 63:22 64:4	technicians	26:4 35:4	196:8 202:23
175:15,16	79:12,15	26:19 48:18	37:23 41:14	202:25 206:1
176:1,2,7,8	tagged 78:25	tell 6:3 53:1	47:7 48:6	210:16 216:12
181:19 182:6	79:2	153:23 166:1	57:24 69:11	216:16,20,21
182:13 184:12	tail 162:11	Templeton	78:25 90:20	216:24,25
184:15 187:19	take 4:10 9:13	184:17,18	92:4,11 104:21	218:3,4,8
194:2 205:7,14	23:9 38:15	temporary	110:8 137:18	thereof 110:2
206:13,21	56:6,13 58:9	199:14	137:21,25	thing 153:17
207:4,8,24	65:11 70:20	ten 16:16 144:25	138:4,8,17	193:15 208:5
212:11,17,22	71:14 75:14	145:2 168:15	140:5 143:21	217:7,10
214:13,20	77:12 83:5	199:17	150:25 155:6	things 23:2
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	1	

29:17 42:2	4:17 5:13 6:14	63:3 128:19,20	title 13:18	197:18 198:20	
108:12 167:23	6:15 7:7 8:2,4	128:25 167:20	today 5:23 6:12	totalizing 31:4	
170:5,10 178:6	9:23,25 12:3	187:16,19,22	6:24 8:16 9:14	57:17 69:1	
188:2	13:9,10,14	three-year	14:21 18:10	totals 185:16	
think 6:2 7:15	25:20 31:10,12	137:12,13	19:18 28:14,17	tour 35:11	
7:16 8:24 9:10	45:1,6 81:23	threshold 48:4	135:3 136:23	town 15:10	
11:22,24 12:24	82:2,3,13,15	167:14	137:6,18,21,25	township 71:7	
17:7 28:5	83:8,13,14,15	Thurston 127:3	138:8 143:21	track 31:3 32:20	
34:19,22 35:4	85:23 86:9,17	tied 194:22,23	145:6 148:24	43:6 96:1	
53:3 66:7	86:18 88:2,9	ties 141:21	154:3 157:12	97:14 102:5	
80:11 83:15	100:4,10 103:5	time 6:11,23 7:1	159:5,5,8,23	105:3 111:21	
86:6 89:11	103:9,23 104:7	15:17 16:10	169:9 175:19	164:6,10,12	
92:3 103:3	104:10,20,25	19:17,25 20:7	185:22 188:3	165:11 175:2	
104:4 116:12	105:2,14,23	29:7,9,11 35:3	told 162:8	193:16	
134:13 138:15	110:6,7 118:19	37:2,6 41:19	tons 142:9	tracked 115:12	
140:4 142:12	118:25 120:7	48:1 57:12	tool 183:9	tracker 29:22	
145:3,21	120:11,24	58:3,5,11,17	tools 19:25 20:2	tracking 65:13	
148:24 149:7	121:1,13,17	58:20 59:15	29:16,25	105:6 163:6	
151:8 153:9,19	130:17,24	61:18,22 62:1	top 26:9,13 30:8	tracks 64:17	
154:12 157:15	132:7,13 134:4	68:9 78:14	30:9 31:19	tracts 166:4	
162:24 163:3	134:8 144:3,12	82:22 89:21	32:24 50:5,8	traditional	
163:15 166:25	159:6 170:6,14	98:3 107:13	50:12 53:9	125:15 129:18	
168:17 172:20	171:25 181:21	111:19 115:4	71:19,23 77:14	154:4	
175:20 177:4,5	185:2 193:1	115:13 117:6	78:4 83:18	transaction	
177:6,23 178:9	195:14 200:14	133:7 139:7,18	95:20 96:19	69:16 114:24	
178:17 179:2	201:4 202:21	139:21 142:7	111:23 202:1	115:13	
181:15 187:21	202:24,25	143:2 145:22	topic 87:16	transactional	
189:10 192:4,6	205:20 210:10	146:13 150:21	116:13 134:22	69:15	
192:19 193:8	210:18 213:12	151:1,5 152:1	topics 14:23	transactions	
193:20 197:14	213:19,20,24	152:3,3 155:7	15:3	27:23 54:7,8	
201:13 203:25	215:12,21,23	156:5 157:3	total 28:24	72:22,23 115:5	
205:4,17	217:4,11,13,24	158:2,3,9,18	31:22 33:6,12	transcript 1:9	
206:14 207:9	218:3	158:20 160:7,7	33:14,18 35:20	219:7	
207:12,25	Thompson's	160:22 161:1	35:21,23 45:14	Transcription	
208:8,13,14	202:19	164:10 169:15	49:13,16 65:16	1:14	
209:1,1,4	thoroughly	169:16,18	66:2,8,10,20	transferred	
212:5 215:2	184:20	171:17 178:9	70:21,24 71:21	15:13	
216:10,22 thinks 193:4	thought 195:2	180:6,11 182:10 198:4	72:6 73:9,13	transitional 158:20	
thinks 193:4 third 28:5 46:10	thousand 179:18		93:15 95:7 97:8,9,10,19		
50:25 52:13	198:16 three 24:22	198:10 199:16 208:17 219:8	, , ,	transposed 76:8 treatment 67:3	
56:16 57:14	27:16 30:3	timeline 133:1	98:2,8 111:1 113:14 122:6	209:3	
76:9 86:20	33:17 35:3,8	timely 84:22	122:13 139:19	trees 93:12,15	
128:25 129:25	36:13 43:20	100:13	147:5 148:21	tremendously	
133:24	45:10 50:12	times 69:9 152:6	152:14 155:13	42:21	
Thompson 2:13	55:23 56:2,3	162:15 163:20	158:14 168:3	trend 139:21	
3:4,6 4:16,17	56:23 58:11	163:23 167:18	186:5 196:15	140:24 141:2	
J.T,U T.1U,1/	50.25 50.11	103.23 107.10	100.5 170.15	170.27 171.2	

142:22 trials:11 7:6,21 133:22 156:16 turned 45:21 tributary 209:22 two 5:20 7:17 deviced 107:21 deviced 107:21 deviced 107:21 deviced 107:21 deviced 107:21 deviced 107:21 deviced 107:22 devic					
trial 5:11 7:6,21 turned 45:21 ultimate 43:3 141:2,5 145:14 33:12,15,18 140:5 159:9,12 132:22 132:22 16:12 148:4 154:9 33:12,15,18 210:2 14:15 15:23 132:13,15 180:10 182:8 47:25 48:23,24 210:2 16:24 18:3 16:52 07:9 182:15 195:24 45:14 46:21,23 122:19,20 21:1 24:19 ultrasonic 29:20 182:15 195:24 49:22,2,11,12 215:2 42:4 45:18,21 ultrasonic 29:20 182:15 195:24 49:12,11,12 215:2 42:4 45:18,21 umbrella 49:3 umbrella 49:3 unit 64:19,22 49:12,11,12 38:7 160:18 71:4 77:22 49:19,23 unit 64:19,22 73:13,13,23 197:14 199:7 199:9 93:9,16 95:15 underground 100:18,18 77:2 78:15 18:22 198:13,13,18 11:2:10 41:4,15,17 44:14,15,17 44:19,22 13:3 100:18,18 77:2 78:15 91:6,93:24 91:6,93:24 91:6,93:24 91:6,93:24 91:14,18 91:7,17,18 91:8,93:24 91:8,18 91:2,17,18 <	142:22	133:22 156:16	Uh-huh 201:6	119:25 128:9	32:24,25 33:6
140:5 159:9,12 132:22 167:12 148:4 154:9 174:22 177:14 179:12 179:14 179:12 179:14 179:12 179:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 177:14 179:12 179:15 179:14 179:14 179:14 179:14 179:14 179:15 179:14 179:15 179:14 179:14 179:14 179:14 179:14 179:14 179:15 179:14 17					· ·
tributary 209:22 210:2 two 5:20 7:17 14:15 15:23 14:15 15:23 13:13.15 180:10 182:8 47:25 48:23,24 161:5 207:9 19:121:12:19:20 21:11 24:19 215:2 26:17 30:6 30:12 205:17 207:6 50:14,15 61:6 207:17 16:4 49:14,17,18,23 205:17 207:6 50:14,15 61:6 207:17 207:6 207:17 207:6 50:14,15 61:6 207:17 207:6 207:17 207:6 50:14,15 61:6 207:17 207:6 207:17 207:6 61:14,15 61:6 207:17 207:6 207:17 207:6 61:14,15 61:6 207:17 207:6 207:17 207:6 61:14,15 61:6 207:17 207:6 207:17 207:6 61:14,15 61:6 207:17 207:6 207:17 207:6 61:14,15 61:6 207:17 207:6 207:17 207:6 61:14,15 61:6 207:17 207:6 207:17 207:6 61:14,15 61:6 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:17 207:6 207:14,19:23 207:14,19:24	,			,	, ,
210:2	, '				
tried 107:21 16:24 18:3 161:5 207:9 182:15 195:24 49:2,2,11,12 122:19:20 20:17 30:6 30:12 205:17 207:6 50:14,15 61:6 trigger 203:19 42:4 45:18,21 umbrella 49:3 untersonic 29:20 50:13,16 49:14,17,18,23 40:14,15 61:6 60:17,10 66:4 47:17 207:6 50:14,15 61:6 61:7,10 66:4 49:19,23 unterstood 47:7 70:15,16 73:4 71:4 77:22 49:19,23 unterstood 47:7 72:5,16 73:4 72:5,16 73:4 73:13,13,23 73:13,13,23 73:13,13,23 75:10 66:4 77:27 51:5 73:13,13,23 75:10 66:4 77:27 51:15 73:13,13,23 75:10 66:4 77:27 51:15 73:13,13,23 75:10 66:4 77:27 78:15 77:27 78:15 77:27 78:15 77:17 75:12 76:16,19,25 76:16,19,25 77:27 78:15 77:27 78:15 77:27 78:15 77:27 78:15 77:27 78:15 77:27 78:15 77:27 78:15 77:27 78:15 77:27 78:15 77:28 78:15 77:27 78:15 77:28 78:15 77:27 78:15 77:27 78:15 77:27 78:15 77:28 78:15 77:27 78:15 77:27 78:15 77:27 78:15 77:27 78:15 <	•		•		
122:19,20			,		,
215:2					
trigger 203:19 42:4 45:18,21 umbrella 49:3 un-metered understood 47:7 72:5,16 73:4 TROUT 2:13 61:1 62:14 49:19,23 unit 64:19,22 73:13;13,23 true 150:18 64:16 69:20 un-permitted 65:5 87:8 74:17 75:12 158:7 160:18 71:4 77:22 179:5 88:19 89:4 76:16,19,25 197:14 199:7 136:13 161:25 191:25 126:2 39:15,22 40:5 100:18,18 77:2 78:15 199:6,7 136:13 161:25 41:5,17 underground 101:22 102:3 80:12,14 81:16 18:22 198:13,13,18 11:2 9:22 131:15 99:6,8 92:22 199:19 52:7,22 56:9 United 1:1 2:21 96:1,14 99:1 44:4,19,22 13:3 109:10,14 8:16 13:12:25 116:7 199:19 52:7,22 56:9 University 15:13 113:15,17,18 13:12:13 18:18 199:11,12 86:14 97:23 umtered 23:2 units 59:23 111:1,14 100:12 106:13 158:12 163:2 178:11,14 202:4 139:11 140:16 139:11 140:16 139:21 140:16 139:21 140:16 1	,			· · · · · · · · · · · · · · · · · · ·	, , ,
tripled 179:22 46:8 50:13 un-metered 49:19,23 understood 47:7 unit 64:19,22 72:5,16 73:4 vnit 64:19,22 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 73:13,13,23 74:17 75:12 75:10 76:16,19,25 76:16,19,25 76:16,19,25 76:16,19,25 76:16,19,25 76:16,19,25 76:16,19,25 80:12,14 81:16 91:68,892:22 91:68,892:22 91:68,892:22 91:68,892:22 91:68,892:22 91:68,892:22 91:68,892:22 91:61,14 99:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 199:21 91:68,892:22 91:14 1	- '				· · · · · · · · · · · · · · · · · · ·
TROUT 2:13 61:1 62:14 49:19,23 unit 64:19,22 73:13,13,23 true 150:18 64:16 69:20 un-permitted 65:5 87:8 74:47:725 76:16,19,25 174:45, 194:25 93:9,16 95:15 underflow 210:7 100:18,18 77:2 78:15 197:14 199:7 119:25 126:2 underground 101:22 102:3 80:12,14 81:16 197:14 199:7 136:13 161:25 underground 131:15 91:6,8 92:22 17 179:8 187:17 198:8 understand 6:18 131:15 91:6,8 92:22 18:22 198:13,13,18 11:2 19:22 units 59:23 109:10,14,18 18:22 198:13,13,18 11:2 19:22 units 59:23 111:1,14 100:12 106:13 199:19 52:7,22 56:9 units 59:23 111:1,14 112:25 116:7 197:11,12 86:14 97:23 unmetered 32:2 124:1 134:20 137:12 138:18 198:10,14 123:3 130:25 20:1,15 133:16 137:12 138:18 198:10,14 123:3 130:25 20:1,15 133:16 138:12 163:22 178:1 1	00	,			
true 150:18 64:16 69:20 un-permitted 65:5 87:8 74:17 75:12 158:7 160:18 71:4 77:22 179:5 88:19 89:4 76:16,19.25 174:4,5 194:25 93:9,16 95:15 underground 100:18,18 77:2 78:15 197:14 199:7 136:13 161:25 39:15,22 40:5 100:18,18 77:2 78:15 18:22 198:13,13,18 11:2 19:22 44:5,17 100:12,106:13 198:20,21,25 20:7 36:15 110:22 102:3 30:12,14 81:16 76:10 92:17 199:19 52:7,22 56:9 United 1:1 2:21 96:1,14 99:21 100:12 106:13 198:20,21,25 20:7 36:15 units 59:23 111:1,14 13:17,18 199:19 52:7,22 56:9 University 15:13 133:15,17,18 13:12:51 199:19 52:7,22 56:9 University 15:13 113:15,17,18 13:12:18:18 198:10,14 123:3 130:25 22:18 170:4 110:23,24,25 13:17,14 198:10,14 123:3 130:25 139:17 140:16 144:11 140:16 15:15:19:17 199:24 175:14 140:16 179:2	_				,
158:7 160:18					, ,
174:4,5 194:25			_		
197:14 199:7 119:25 126:2 219:6,7 136:13 161:25 41:5,17 219:15 24:15 21:15 21:6,8 92:22 22:18 170:4 110:23,24,25 111:1,14 113:15,17,18 110:23,24,25 120:13 13:15					, ,
219:6,7	,	,		· · · · · · · · · · · · · · · · · · ·	
truly 44:11 167:20 181:1 187:17 198:8 18:12 41:5,17 understand 6:18 11:2:21 4:4,19,22 13:3 109:10,14,18 11:2:22 try 68:3 70:1 198:20,21,25 199:19 52:7,22 56:9 100:12 106:13 12:25 116:7 199:19 52:7,22 56:9 136:17,18 112:25 116:7 198:10,14 202:4 139:10.14 13:10 151:14 15:11 12:25 178:1 198:10,14 202:4 139:17 140:16 158:12 163:22 177:25 178:1 184:8 188:6 48:12,13,16,25 189:6 197:8 49:10,11 50:1 184:8 188:6 198:2,2 208:16 179:8 198:2,2 208:16 179:10 67:23 75:16 108:11 141:5 168:3 177:4 168:3 177:4 187:19 199:19 199:19 195:17 198:17 198:17 199:19			0		′
truth 10:5,6,6 187:17 198:8 understand 6:18 4:4,19,22 13:3 109:10,14,18 18:22 198:13,13,18 11:2 19:22 22:18 170:4 110:23,24,25 try 68:3 70:1 198:20,21,25 20:7 36:15 units 59:23 111:1,14 100:12 106:13 two-thirds 56:14 61:23,25 32:4,19 33:9 113:15,17,18 137:12 138:18 198:10,14 123:3 130:25 unmetered 32:2 124:1 134:20 137:12 138:18 198:10,14 123:3 130:25 unused 199:6 139:20 140:2 158:12 163:22 TX 219:24 147:3,22 149:9 147:3,22 149:9 143:0 151:14 156:156 153:13 184:8 188:6 48:12,13,16,25 153:1 154:25 update 77:10 151:6 153:13 189:2,2 208:16 54:12 65:16 169:2,12 updated 74:4 172:17 173:2 198:2,2 208:16 54:12 65:16 171:13,15 upstream 72:14 180:18,20,21 108:11 141:5 16:21 178:6 172:17 173:12 172:15 183:10 190:12 16x:3 177:4 types 42:24 125:17 198:17 US-486 11:14 193:8 194:12	, and the second		· ·		i i
18:22 198:13,13,18 11:2 19:22 22:18 170:4 110:23,24,25 try 68:3 70:1 198:20,21,25 20:7 36:15 units 59:23 111:1,14 76:10 92:17 199:19 52:7,22 56:9 University 15:13 113:15,17,18 100:12 106:13 two-thirds 56:14 61:23,25 32:4,19 33:9 114:4 115:1 136:17,18 198:10,14 198:10,14 105:21 113:17 unmetered 32:2 135:6 138:16 137:12 138:18 198:10,14 202:4 139:17 140:16 200:1,5 143:311 148:2 143:10 151:14 202:4 139:17 140:16 200:1,5 143:3,11 148:2 158:12 163:22 177:25 178:1 48:12,13,16,25 153:1 154:25 update 77:10 151:6 153:13 184:8 188:6 48:12,13,16,25 153:1 154:25 updating 77:10 151:6 166:18 198:2,2 208:16 54:12 65:16 67:23 75:16 171:13,15 upstream 72:14 180:11,717 108:11 141:5 16:21 178:6 172:11 173:12 172:15 183:10 190:12 16:33 177:4 48:15 50:6 179:9 195:17 198:	•		1		'
try 68:3 70:1 198:20,21,25 20:7 36:15 units 59:23 111:,14 76:10 92:17 199:19 52:7,22 56:9 University 15:13 113:15,17,18 100:12 106:13 197:11,12 86:14 97:23 unmetered 32:2 124:1 134:20 136:17,18 two-year 197:25 105:21 113:17 unquote 175:22 135:6 138:16 137:12 138:18 198:10,14 123:3 130:25 unused 199:6 139:20 140:2 143:10 151:14 202:4 139:17 140:16 200:1,5 143:3,11 148:2 158:12 163:22 TX 219:24 147:3,22 149:9 update 77:10 151:6 153:13 177:25 178:1 type 32:6,8 33:7 150:11,24 80:10 115:15 151:6 153:13 189:6 197:8 49:10,11 50:1 162:4 167:1 15:6 178:6,13 198:2, 2 208:16 54:12 65:16 171:13,15 172:11 173:12 180:11,7,17 198:2, 2 89:14 109:13 112:21 173:23 174:4 180:18,20,21 181:1,12 166:15,16 179:9 195:17 198:17 US-485 11:11 190:24 192:20 168:3 177:4 48:15	, ,			, ,	
76:10 92:17 199:19 two-thirds 52:7,22 56:9 University 15:13 113:15,17,18 100:12 106:13 112:25 116:7 197:11,12 86:14 97:23 32:4,19 33:9 114:4 115:1 136:17,18 two-year 197:25 105:21 113:17 100:21 113:17 123:3 130:25 113:15,17,18 137:12 138:18 198:10,14 123:3 130:25 105:21 113:17 123:3 130:25 139:0 140:2 143:10 151:14 198:10,14 202:4 139:17 140:16 139:0 140:2 139:0 140:2 158:12 163:22 TX 219:24 147:3,22 149:9 143:3,11 148:2 156:16 153:13 177:25 178:1 type 32:6,8 33:7 150:11,24 150:11,24 151:6 153:13 188:6 197:8 49:10,11 50:1 162:4 167:1 15:6 165:16 166:18 198:2,2 208:16 54:12 65:16 169:2,12 172:11 173:12 175:13,15 180:11,17,17 180:11,17,17 10:12 178:6 75:20 172:11 173:12 172:15 182:23 183:8 182:23 183:8 19:13 20:11 typically 167:22 18:14 33:25 129:6 144:10 199:6 144:10 <td></td> <td></td> <td></td> <td></td> <td></td>					
100:12 106:13 two-thirds 56:14 61:23,25 32:4,19 33:9 114:4 115:1 112:25 116:7 197:11,12 86:14 97:23 unmetered 32:2 124:1 134:20 136:17,18 198:10,14 123:3 130:25 unquote 175:22 135:6 138:16 137:12 138:18 198:10,14 123:3 130:25 unquote 175:22 135:6 138:16 143:10 151:14 202:4 139:17 140:16 200:1,5 143:3,11 148:2 158:12 163:22 172:24 147:3,22 149:9 150:11,24 155:16 153:13 177:25 178:1 179:24 150:11,24 150:11,24 155:16 153:13 188:6 197:8 49:10,11 50:1 150:11,24 155:11 54:25 175:11 173:12 189:2,2 208:16 54:12 65:16 169:2,12 178:64 17:1 179:13,15 172:11 173:12 178:6,13 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17 180:11,17,17		, ,			· ·
112:25 116:7 197:11,12 86:14 97:23 unmetered 32:2 124:1 134:20 136:17,18 198:10,14 123:3 130:25 139:17 140:16 139:20 140:2 143:10 151:14 202:4 139:17 140:16 200:1,5 139:20 140:2 158:12 163:22 17X 219:24 147:3,22 149:9 150:11,24 80:10 115:15 151:6 153:13 184:8 188:6 48:12,13,16,25 49:10,11 50:1 162:4 167:1 153:1 154:25 115:6 16:16:16:18 198:2,2 208:16 54:12 65:16 169:2,12 115:6 173:2 198:2,2 208:16 54:12 65:16 169:2,12 115:6 178:6,13 198:2,2 208:16 67:23 75:16 171:13,15 195:17 193:12 180:11,17,17 198:2,2 89:14 109:13 112:21 173:23 174:4 109:13 112:21 173:23 174:4 188:15 182:23 183:8,8 187:19 48:15 50:6 195:17 198:17 195:17 198:17 195:17 198:17 195:486 11:14 193:8 194:1,23 19:13 20:11 19:13 20:11 48:15 50:6 18:14 33:25 18:24 9 195:11 199:15 19:13 20:11			1	•	
136:17,18 two-year 197:25 105:21 113:17 unquote 175:22 135:6 138:16 137:12 138:18 198:10,14 123:3 130:25 139:20 140:2 143:10 151:14 202:4 139:17 140:16 200:1,5 143:3,11 148:2 158:12 163:22 TX 219:24 147:3,22 149:9 151:6 153:13 177:25 178:1 type 32:6,8 33:7 150:11,24 80:10 115:15 165:16 166:18 184:8 188:6 48:12,13,16,25 153:1 154:25 updated 74:4 172:17 173:2 189:0 197:8 49:10,11 50:1 162:4 167:1 15:6 178:6,13 198:2,2 208:16 54:12 65:16 169:2,12 updating 77:12 180:11,17,17 trying 7:10 67:23 75:16 171:13,15 upstream 72:14 180:18,20,21 30:12 51:2 76:9 90:23 172:11 173:12 72:15 181:1,12 168:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 168:3 177:4 types 42:24 215:7,12 US-486 11:14 193:8 194:1,23 19:13 20:11 48:15 50:6 218:4,9 usable 191			· ·	,	
137:12 138:18 198:10,14 123:3 130:25 unused 199:6 139:20 140:2 143:10 151:14 202:4 139:17 140:16 200:1,5 143:3,11 148:2 158:12 163:22 TX 219:24 147:3,22 149:9 update 77:10 151:6 153:13 184:8 188:6 48:12,13,16,25 153:1 154:25 updated 74:4 172:17 173:2 189:6 197:8 49:10,11 50:1 162:4 167:1 15:6 178:6,13 198:2,2 208:16 54:12 65:16 169:2,12 updating 77:12 180:11,17,17 trying 7:10 67:23 75:16 171:13,15 upstream 72:14 180:18,20,21 30:12 51:2 76:9 90:23 172:11 173:12 72:15 181:1,12 78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-485 11:11 190:24 192:20 168:3 177:4 types 42:24 215:7,12 US-486 11:14 193:8 194:1,23 17:13 9:1 48:15 50:6 understanding US-489 11:13 195:11 199:15 19:13 20:11 typical					
143:10 151:14 202:4 139:17 140:16 200:1,5 143:3,11 148:2 158:12 163:22 TX 219:24 147:3,22 149:9 update 77:10 151:6 153:13 177:25 178:1 type 32:6,8 33:7 150:11,24 80:10 115:15 165:16 166:18 184:8 188:6 48:12,13,16,25 153:1 154:25 updated 74:4 172:17 173:2 189:6 197:8 49:10,11 50:1 162:4 167:1 115:6 178:6,13 198:2,2 208:16 54:12 65:16 169:2,12 updating 77:12 180:11,17,17 trying 7:10 67:23 75:16 171:13,15 upstream 72:14 180:18,20,21 30:12 51:2 76:9 90:23 172:11 173:12 72:15 181:1,12 78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 168:3 177:4 types 42:24 215:7,12 US-486 11:14 193:8 194:1,23 181:1 38:2 66:22 71:24 6:21 8:4,9 usable 191:5 201:9,9 208:24 19:13 20:11 typically 167:22 41:18 42:10 129:6 144:10 70:3 78:5 <	,	•		_	
158:12 163:22 TX 219:24 147:3,22 149:9 update 77:10 151:6 153:13 177:25 178:1 type 32:6,8 33:7 150:11,24 80:10 115:15 165:16 166:18 184:8 188:6 48:12,13,16,25 153:1 154:25 updated 74:4 172:17 173:2 189:6 197:8 49:10,11 50:1 162:4 167:1 115:6 178:6,13 198:2,2 208:16 54:12 65:16 169:2,12 updating 77:12 180:11,17,17 trying 7:10 67:23 75:16 171:13,15 upstream 72:14 180:18,20,21 30:12 51:2 76:9 90:23 172:11 173:12 72:15 181:1,12 78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 166:3 177:4 types 42:24 215:7,12 US-486 11:14 193:8 194:1,23 181:13 20:11 48:15 50:6 understanding US-489 11:13 195:11 199:15 19:13 20:11 typically 167:22 18:14 33:25 usage 22:12,15 useful 72:19 31:1 38:2					
177:25 178:1 type 32:6,8 33:7 150:11,24 80:10 115:15 165:16 166:18 184:8 188:6 48:12,13,16,25 153:1 154:25 updated 74:4 172:17 173:2 189:6 197:8 49:10,11 50:1 162:4 167:1 115:6 178:6,13 198:2,2 208:16 54:12 65:16 169:2,12 updating 77:12 180:11,17,17 trying 7:10 67:23 75:16 171:13,15 upstream 72:14 180:18,20,21 30:12 51:2 76:9 90:23 172:11 173:12 181:1,12 78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 167:15,16 179:9 195:17 198:17 US-485 11:11 190:24 192:20 187:19 48:15 50:6 understanding US-486 11:14 193:8 194:1,23 19:13 20:11 typical 89:7,9 18:14 33:25 usage 22:12,15 useful 72:19 19:13 20:11 typically 167:22 41:18 42:10 129:6 144:10 70:3 78:5 51:22 55:10 60:12 68:5				,	, and the second
184:8 188:6 48:12,13,16,25 153:1 154:25 updated 74:4 172:17 173:2 189:6 197:8 49:10,11 50:1 162:4 167:1 115:6 178:6,13 198:2,2 208:16 54:12 65:16 169:2,12 updating 77:12 180:11,17,17 trying 7:10 67:23 75:16 171:13,15 upstream 72:14 180:18,20,21 78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 168:3 177:4 types 42:24 215:7,12 US-485 11:11 190:24 192:20 187:19 48:15 50:6 understanding US-486 11:14 193:8 194:1,23 181:1 38:19 75:20 18:14 33:25 usable 191:5 201:9,9 208:24 19:13 20:11 typical 89:7,9 41:18 42:10 23:8,9 33:13 user 23:22 69:24 19:13 20:11 typically 167:22 43:12 58:2 62:17 66:13,16 use 11:19 17:5 204:2 51:22 55:10 Us 2:22 117:15 62:17 66:13,16 23:5 29:17,21 users 21:4,6,8 60:12 68:5 74:6 80:20 43:22 2 117:15 94:22 111:16 <td></td> <td></td> <td></td> <td>_</td> <td></td>				_	
189:6 197:8 49:10,11 50:1 162:4 167:1 115:6 178:6,13 198:2,2 208:16 54:12 65:16 169:2,12 updating 77:12 180:11,17,17 trying 7:10 67:23 75:16 171:13,15 upstream 72:14 180:18,20,21 30:12 51:2 76:9 90:23 172:11 173:12 72:15 181:1,12 78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 168:3 177:4 types 42:24 215:7,12 US-485 11:11 190:24 192:20 187:19 48:15 50:6 understanding US-486 11:14 193:8 194:1,23 19:13 20:11 55:20 18:14 33:25 usable 191:5 201:9,9 208:24 19:13 20:11 typical 89:7,9 38:18 39:11 23:8,9 33:13 user 23:22 69:24 19:13 20:11 168:5 43:12 58:2 164:20 165:6 92:17 97:15 31:1 38:2 168:5 62:17 66:13,16 use 11:19 17:5 204:2 51:22 55:10 00:12 68:5 92:22 217:15 23:5 29:17,21 users 21:4,6,8 60:12 68:5					
198:2,2 208:16 54:12 65:16 169:2,12 updating 77:12 180:11,17,17 trying 7:10 67:23 75:16 171:13,15 upstream 72:14 180:18,20,21 30:12 51:2 76:9 90:23 172:11 173:12 72:15 181:1,12 78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 168:3 177:4 types 42:24 215:7,12 US-485 11:11 190:24 192:20 187:19 48:15 50:6 understanding US-489 11:13 195:11 199:15 27:3,4 28:13 66:22 71:24 6:21 8:4,9 usable 191:5 201:9,9 208:24 19:13 20:11 typical 89:7,9 38:18 39:11 23:8,9 33:13 user 23:22 69:24 19:13 20:11 typically 167:22 41:18 42:10 129:6 144:10 70:3 78:5 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 06:12 68:5 80:9 93:6 94:1 23:5 29:17,21 users 21:4,6,8 74:6 80:20				-	
trying 7:10 67:23 75:16 171:13,15 upstream 72:14 180:18,20,21 30:12 51:2 76:9 90:23 172:11 173:12 72:15 181:1,12 78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 168:3 177:4 types 42:24 195:17 198:17 US-485 11:11 190:24 192:20 187:19 48:15 50:6 understanding US-489 11:13 195:11 199:15 27:3,4 28:13 75:20 18:14 33:25 usage 22:12,15 201:9,9 208:24 19:13 20:11 typical 89:7,9 41:18 42:10 129:6 144:10 70:3 78:5 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 06:12 68:5 62:17 66:13,16 use 11:19 17:5 204:2 60:12 68:5 42:22 117:15 94:22 111:16 29:22,23,24 35:10,12 81:19					· · · · · · · · · · · · · · · · · · ·
30:12 51:2 76:9 90:23 172:11 173:12 72:15 181:1,12 78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 168:3 177:4 types 42:24 195:17 198:17 US-485 11:11 190:24 192:20 187:19 48:15 50:6 understanding US-486 11:14 193:8 194:1,23 181:1,12 190:24 192:20 183:10 190:12 190:24 192:20 187:19 48:15 50:6 understanding US-486 11:14 193:8 194:1,23 19:13 20:12 51:20 18:14 33:25 usable 191:5 201:9,9 208:24 19:13 20:11 typical 89:7,9 38:18 39:11 23:8,9 33:13 user 23:22 69:24 19:13 20:11 typically 167:22 41:18 42:10 129:6 144:10 70:3 78:5 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 60:12 68:5 62:17 66:13,16 use 11:19 17:5 204:2 60:12 68:5 49:22 111:16 29:22,23,24 35:10,12 81:19			′		
78:22 89:14 109:13 112:21 173:23 174:4 upwards 58:15 182:23 183:8,8 108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 167:15,16 179:9 195:17 198:17 US-485 11:11 190:24 192:20 187:19 48:15 50:6 understanding US-486 11:14 193:8 194:1,23 187:19 66:22 71:24 6:21 8:4,9 usable 191:5 201:9,9 208:24 27:3,4 28:13 75:20 18:14 33:25 usage 22:12,15 useful 72:19 19:13 20:11 typical 89:7,9 38:18 39:11 23:8,9 33:13 user 23:22 69:24 19:13 20:11 typically 167:22 41:18 42:10 129:6 144:10 70:3 78:5 31:1 38:2 62:17 66:13,16 use 11:19 17:5 204:2 51:22 55:10 62:17 66:13,16 use 11:19 17:5 204:2 60:12 68:5 43:12 58:2 62:17 66:13,16 use 11:19 17:5 204:2 60:12 68:5 43:12 52:22 117:15 29:22,23,24 35:10,12 81:19			· ·	_	
108:11 141:5 161:21 178:6 177:2 188:2,2 US-422 12:10 183:10 190:12 167:15,16 179:9 195:17 198:17 US-485 11:11 190:24 192:20 168:3 177:4 types 42:24 215:7,12 US-486 11:14 193:8 194:1,23 187:19 48:15 50:6 understanding US-489 11:13 195:11 199:15 27:3,4 28:13 66:22 71:24 6:21 8:4,9 usable 191:5 201:9,9 208:24 19:13 20:11 typical 89:7,9 38:18 39:11 23:8,9 33:13 user 23:22 69:24 19:13 20:11 typically 167:22 41:18 42:10 129:6 144:10 70:3 78:5 51:22 55:10 60:12 68:5 43:12 58:2 164:20 165:6 92:17 97:15 60:12 68:5 62:17 66:13,16 use 11:19 17:5 204:2 U.S 2:22 117:15 94:22 111:16 29:22,23,24 35:10,12 81:19					· ·
167:15,16 179:9 195:17 198:17 US-485 11:11 190:24 192:20 168:3 177:4 187:19 48:15 50:6 US-486 11:14 193:8 194:1,23 187:19 48:15 50:6 understanding US-489 11:13 195:11 199:15 27:3,4 28:13 75:20 18:14 33:25 usable 191:5 201:9,9 208:24 19:13 20:11 typical 89:7,9 38:18 39:11 23:8,9 33:13 user 23:22 69:24 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 60:12 68:5 62:17 66:13,16 use 11:19 17:5 204:2 60:12 68:5 43:12 22:2111:16 29:22,23,24 35:10,12 81:19				_	*
168:3 177:4 types 42:24 215:7,12 US-486 11:14 193:8 194:1,23 187:19 48:15 50:6 understanding 195:11 199:15 Tularosa 25:12 66:22 71:24 6:21 8:4,9 usable 191:5 201:9,9 208:24 27:3,4 28:13 75:20 18:14 33:25 usage 22:12,15 useful 72:19 turn 16:17 19:1 typical 89:7,9 41:18 42:10 129:6 144:10 70:3 78:5 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 US 2:22 117:15 80:9 93:6 94:1 23:5 29:17,21 users 21:4,6,8 74:6 80:20 40:12 68:5 94:22 111:16 29:22,23,24 35:10,12 81:19			· · · · · · · · · · · · · · · · · · ·		
187:19 48:15 50:6 understanding US-489 11:13 195:11 199:15 Tularosa 25:12 66:22 71:24 5:20 18:14 33:25 usable 191:5 201:9,9 208:24 19:13 20:11 typical 89:7,9 38:18 39:11 23:8,9 33:13 user 23:22 69:24 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 60:12 68:5 62:17 66:13,16 use 11:19 17:5 204:2 Wusers 21:4,6,8 49:22 111:16 29:22,23,24 35:10,12 81:19	, and the second				
Tularosa 25:12 66:22 71:24 6:21 8:4,9 usable 191:5 201:9,9 208:24 27:3,4 28:13 18:14 33:25 usage 22:12,15 useful 72:19 31:1 32:11 19:13 20:11 18:14 33:25 18:18 39:11 23:8,9 33:13 129:6 144:10 129:6 144:10 70:3 78:5 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 60:12 68:5 80:9 93:6 94:1 23:5 29:17,21 204:2 Wusers 21:4,6,8 35:10,12 81:19		· -			· · · · · · · · · · · · · · · · · · ·
27:3,4 28:13 75:20 18:14 33:25 usage 22:12,15 useful 72:19 turn 16:17 19:1 typical 89:7,9 41:18 42:10 129:6 144:10 70:3 78:5 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 60:12 68:5 80:9 93:6 94:1 23:5 29:17,21 users 21:4,6,8 74:6 80:20 43:12 58:2 23:5 29:17,21 23:5 29:17,21			O		
turn 16:17 19:1 typical 89:7,9 38:18 39:11 23:8,9 33:13 user 23:22 69:24 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 51:22 69:24 43:12 58:2 164:20 165:6 92:17 97:15 60:12 68:5 574:6 80:20 80:9 93:6 94:1 23:5 29:17,21 23:5 29:17,21 94:22 111:16 29:22,23,24 35:10,12 81:19			· ·		'
19:13 20:11 typically 167:22 41:18 42:10 129:6 144:10 70:3 78:5 31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 60:12 68:5 62:17 66:13,16 use 11:19 17:5 204:2 V.S 2:22 117:15 80:9 93:6 94:1 23:5 29:17,21 users 21:4,6,8 70:3 78:5 35:10,12 81:19	· ·				
31:1 38:2 168:5 43:12 58:2 164:20 165:6 92:17 97:15 51:22 55:10 U 60:12 68:5 80:9 93:6 94:1 23:5 29:17,21 204:2 VU.S 2:22 117:15 94:22 111:16 29:22,23,24 35:10,12 81:19		· -		· · · · · · · · · · · · · · · · · · ·	70:3 78:5
60:12 68:5 74:6 80:20	31:1 38:2		43:12 58:2	164:20 165:6	92:17 97:15
60:12 68:5 74:6 80:20	51:22 55:10		62:17 66:13,16	use 11:19 17:5	204:2
74:6 80:20 U.S 2:22 117:15 94:22 111:16 29:22,23,24 35:10,12 81:19	60:12 68:5		· · · · · · · · · · · · · · · · · · ·	23:5 29:17,21	users 21:4,6,8
110.00	74:6 80:20		94:22 111:16	,	' '
1	90:21 122:10	118:20	113:20 119:21	, ,	· ·
	L	1	I .	1	l

85:13 92:12				
03.13 /2.12	version 17:7	wanting 104:10	55:3 58:17	118:5 119:22
94:24 95:1	18:16 71:14	wants 114:3	60:5 61:2,8,9	120:6 121:24
103:15 129:9	74:4 80:7	wasn't 47:9	63:16,23 64:12	122:3,5,23
160:5 164:2,3	81:14 136:23	124:13 146:5	64:12 66:1	123:12 124:3
164:9 203:9	153:6,6	153:16 172:23	67:1,4,5,24	125:3,3,6,14
207:10 212:14	versus 4:3 90:15	202:20 211:2	68:5 69:25	125:25 126:9
212:18,24	113:18 137:9	waste 22:1	70:2,5,8 71:17	126:10,13,23
213:5	view 18:19	wasteful 189:18	71:19,22,25	126:25 127:10
uses 21:7 29:3	120:18	wastewater 67:1	72:2,5,7,9,10	128:3,8,24
31:3,4,16,17	village 18:23	209:2	72:11 73:2,7,8	129:3,8,13,16
32:6,11,16,20	violation 64:7	water 13:19,24	73:10,13,14	131:5,6,21
33:2,15 42:22	101:12,21	14:1,3,5,10	74:16 75:17	132:17,18
42:25 43:4	102:24 131:16	16:4,9,10,15	78:5,13,15	133:25 134:9
60:23 73:5	volume 1:5 97:5	16:19 17:13,14	79:10,21 80:1	135:6 137:11
128:25 137:11	150:20 180:7	18:1,16 19:5,6	80:5,8,15 81:7	137:20 138:16
138:18 143:13	180:21 189:11	19:20,23 20:3	81:19,21 82:20	138:19 139:10
168:21 171:9	189:12 191:13	20:3,6,23,24	83:20,25 84:15	139:14,24
usually 67:18	193:17,20,22	21:4,6,13,15	85:13 87:2,8	140:2,6 141:22
69:7 89:12	194:3	21:20,25 22:3	89:1,13,21	141:22 143:3
188:5	volumes 197:3	22:12,15,16	90:9 91:3,15	143:14,23
utilize 29:13	197:25	23:4,8,15 24:2	91:18 92:12,17	144:9,10 146:1
125:22	voluntary	24:6,12,13,22	92:21 93:22	146:2,3,11,20
UTM 71:10	207:14,18	25:10 26:11,24	94:24 95:1,11	147:2,15,20
	208:2,4	27:4,13,18	95:14,16,16,20	148:18 149:22
V	voted 147:24	28:6,9,20 29:6	95:22 96:14,16	150:6,12,23
V 2:17	VS 1:5	30:22 31:3,4	96:17 97:3,5,5	152:1 153:10
vacancies 27:17		31:13,16,17,22	97:8,12,15	153:14 154:3,5
vacant 26:18	W	31:23,25 32:6	98:7,18 99:1	154:15,22
27:2	wait 170:20	32:7 33:7,10	99:10 101:17	155:8 156:12
		· ·		100.0 100.12
valid 115:24	walk 15:6 20:10	33:12,15,20,22	102:12,24	156:17,19,22
valid 115:24 124:14 126:9	26:9 32:25	33:12,15,20,22 34:4,14,22	102:12,24 103:15,15	
valid 115:24 124:14 126:9 129:3,12	26:9 32:25 68:19 95:6,9	, , ,	,	156:17,19,22
valid 115:24 124:14 126:9 129:3,12 166:17 199:11	26:9 32:25 68:19 95:6,9 101:7	34:4,14,22	103:15,15	156:17,19,22 157:4 158:18
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21	34:4,14,22 35:24 36:3,4	103:15,15 104:16,19	156:17,19,22 157:4 158:18 160:5,19
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1	34:4,14,22 35:24 36:3,4 37:1,8,12,15	103:15,15 104:16,19 106:5,9,14	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20	103:15,15 104:16,19 106:5,9,14 107:6,8,22	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11 valued 142:1,10	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13 169:5 177:8	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8 42:14,18 43:7 44:1 45:22	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18 109:21 110:1 110:20,21,23 110:24 111:15	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22 168:16 170:14 170:15,23 171:2,3,5,8,9
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11 valued 142:1,10 142:15	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13 169:5 177:8 187:24 191:3	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8 42:14,18 43:7 44:1 45:22 46:4,4,10,20	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18 109:21 110:1 110:20,21,23 110:24 111:15 111:17 112:15	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22 168:16 170:14 170:15,23 171:2,3,5,8,9 171:15 172:6
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11 valued 142:1,10 142:15 varies 165:2	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13 169:5 177:8 187:24 191:3 212:3	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8 42:14,18 43:7 44:1 45:22 46:4,4,10,20 47:1,15,20,23	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18 109:21 110:1 110:20,21,23 110:24 111:15 111:17 112:15 113:9,15,18	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22 168:16 170:14 170:15,23 171:2,3,5,8,9 171:15 172:6 172:15,16,17
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11 valued 142:1,10 142:15 varies 165:2 various 159:7	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13 169:5 177:8 187:24 191:3 212:3 wanted 5:25	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8 42:14,18 43:7 44:1 45:22 46:4,4,10,20 47:1,15,20,23 48:13,22,25	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18 109:21 110:1 110:20,21,23 110:24 111:15 111:17 112:15 113:9,15,18 114:3,14,21	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22 168:16 170:14 170:15,23 171:2,3,5,8,9 171:15 172:6 172:15,16,17 172:25 173:1,2
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11 valued 142:1,10 142:15 varies 165:2 various 159:7 vast 90:17	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13 169:5 177:8 187:24 191:3 212:3 wanted 5:25 6:16 92:5	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8 42:14,18 43:7 44:1 45:22 46:4,4,10,20 47:1,15,20,23 48:13,22,25 49:2,4,13	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18 109:21 110:1 110:20,21,23 110:24 111:15 111:17 112:15 113:9,15,18 114:3,14,21 115:2,23,24	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22 168:16 170:14 170:15,23 171:2,3,5,8,9 171:15 172:6 172:15,16,17 172:25 173:1,2 173:10,17,21
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11 valued 142:1,10 142:15 varies 165:2 various 159:7 vast 90:17 verification	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13 169:5 177:8 187:24 191:3 212:3 wanted 5:25 6:16 92:5 123:5,17	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8 42:14,18 43:7 44:1 45:22 46:4,4,10,20 47:1,15,20,23 48:13,22,25 49:2,4,13 50:17,23 51:5	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18 109:21 110:1 110:20,21,23 110:24 111:15 111:17 112:15 113:9,15,18 114:3,14,21 115:2,23,24 116:3,4,8,16	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22 168:16 170:14 170:15,23 171:2,3,5,8,9 171:15 172:6 172:15,16,17 172:25 173:1,2 173:10,17,21 173:25 174:3
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11 valued 142:1,10 142:15 varies 165:2 various 159:7 vast 90:17 verification 67:23	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13 169:5 177:8 187:24 191:3 212:3 wanted 5:25 6:16 92:5 123:5,17 130:12 148:17	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8 42:14,18 43:7 44:1 45:22 46:4,4,10,20 47:1,15,20,23 48:13,22,25 49:2,4,13 50:17,23 51:5 51:7,9,10 52:1	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18 109:21 110:1 110:20,21,23 110:24 111:15 111:17 112:15 113:9,15,18 114:3,14,21 115:2,23,24 116:3,4,8,16 116:17,17,23	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22 168:16 170:14 170:15,23 171:2,3,5,8,9 171:15 172:6 172:15,16,17 172:25 173:1,2 173:10,17,21 173:25 174:3 175:2,5,7,9,15
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11 valued 142:1,10 142:15 varies 165:2 various 159:7 vast 90:17 verification 67:23 verify 68:6 76:7	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13 169:5 177:8 187:24 191:3 212:3 wanted 5:25 6:16 92:5 123:5,17 130:12 148:17 205:21 217:14	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8 42:14,18 43:7 44:1 45:22 46:4,4,10,20 47:1,15,20,23 48:13,22,25 49:2,4,13 50:17,23 51:5 51:7,9,10 52:1 52:11,16,21	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18 109:21 110:1 110:20,21,23 110:24 111:15 111:17 112:15 113:9,15,18 114:3,14,21 115:2,23,24 116:3,4,8,16 116:17,17,23 116:25 117:4,6	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22 168:16 170:14 170:15,23 171:2,3,5,8,9 171:15 172:6 172:15,16,17 172:25 173:1,2 173:10,17,21 173:25 174:3 175:2,5,7,9,15 175:16,20
valid 115:24 124:14 126:9 129:3,12 166:17 199:11 validate 172:22 valley 142:6 151:20,21 152:23,24 valuable 142:11 valued 142:1,10 142:15 varies 165:2 various 159:7 vast 90:17 verification 67:23	26:9 32:25 68:19 95:6,9 101:7 want 4:12 8:21 9:9,11 12:1 15:3 37:12 90:21 123:2 134:22 146:13 169:5 177:8 187:24 191:3 212:3 wanted 5:25 6:16 92:5 123:5,17 130:12 148:17	34:4,14,22 35:24 36:3,4 37:1,8,12,15 37:16,19,20,20 38:23 39:1,22 39:25,25 40:3 41:16,23 42:8 42:14,18 43:7 44:1 45:22 46:4,4,10,20 47:1,15,20,23 48:13,22,25 49:2,4,13 50:17,23 51:5 51:7,9,10 52:1	103:15,15 104:16,19 106:5,9,14 107:6,8,22 108:9 109:6,7 109:11,14,18 109:21 110:1 110:20,21,23 110:24 111:15 111:17 112:15 113:9,15,18 114:3,14,21 115:2,23,24 116:3,4,8,16 116:17,17,23	156:17,19,22 157:4 158:18 160:5,19 161:16,17,19 161:20,21,22 164:2,3,8 166:12,17,22 168:16 170:14 170:15,23 171:2,3,5,8,9 171:15 172:6 172:15,16,17 172:25 173:1,2 173:10,17,21 173:25 174:3 175:2,5,7,9,15

179:22 180:7	46:6 59:14	86:7,10 89:14	66:1,9,14,23	withdrawn 13:7
180:12,17	64:13 74:20	90:3 93:25	66:25 67:3,10	95:8 191:14
181:9,12	100:12 107:15	96:11 97:12	67:13 71:1	witness 4:5,9 5:2
182:18 184:6	113:2,10	101:16 104:10	78:16 85:3	5:5 7:9 9:3,14
184:12,16	114:25 120:21	107:13 108:15	140:15 145:12	9:20,24 10:3,7
187:6,9 188:9	123:12 139:14	110:7 116:11	145:13 157:25	10:11,18,21
188:14,15,16	153:16 158:14	123:1 134:1	164:7,7,11	11:3 86:15
189:3,6 190:1	166:19 184:8	136:1 141:5	165:4,9 167:18	193:3 195:14
190:19 191:4,5	198:24	145:19 149:10	168:6 174:8,12	216:25
191:10,13	ways 145:10	151:19,21	174:25 175:14	witness's 205:23
192:1,8,9,13	165:19,21	163:17 166:12	175:25 176:20	witnesses 7:17
193:9,10,15,15	we'll 30:24	167:15,16	177:9,12,16,20	10:15 83:2
194:2,4 199:10	38:15 62:4	168:13,13	178:2,2,12,15	word 171:9
199:12,19,23	63:21 68:23,24	169:10 190:4	178:24 179:4	words 110:16
199:25 200:5,9	75:22 76:2,3,6	198:24 199:2	179:14 184:1	work 15:17,22
201:21 203:7	76:9 78:12,14	202:11 211:21	187:17 191:15	28:24 42:18,20
203:10 204:3	78:14,21 83:6	211:25 212:5	192:2,6 193:11	64:18 78:12,21
206:4 207:2,4	84:25 85:1,2,5	we've 7:10,12	193:17 194:13	80:16 87:20
207:8,9,10,22	86:23 87:1	8:18 37:23	201:10	106:9 114:11
207:24 209:18	98:13,14 99:6	41:12 60:25	went 16:4 61:24	137:1 151:19
212:11 213:1,3	102:5,7,8,15	66:11 69:10	87:21 120:15	151:19 157:16
213:5 214:4,9	102:15,16	70:23 81:1	133:6 159:7	158:10,10
214:9,13,14,17	109:23,23	83:1 90:19	200:1 210:19	199:9 215:15
214:19,20,25	110:2 112:20	96:4 116:6	weren't 117:18	workday 158:11
215:17	116:5,9 117:5	134:12 135:3	Weslayan	worked 8:9
water-only	123:19 124:16	139:6 140:4	219:24	59:12 87:23
187:20	136:22,24	141:12 153:21	west 17:21,23,24	120:14 150:25
water-righted	137:1,2,10	157:6,6 162:18	whatsoever 6:24	158:6
111:2 190:14	151:21 152:9	163:3 168:17	wherefore 89:25	working 8:13,13
194:14,15	154:17 156:4	169:9	whichever 97:12	44:1 49:20
water/ground	158:11 163:20	Web 70:1	White 32:14	66:11 93:25
97:15 114:17	166:14,18	Website 25:22	wide 176:14	108:12,15
waters 14:3	168:1,1,2	135:23,25	winter 135:17	157:5 158:24
20:15,21 23:17	188:10 217:7	140:19 145:18	wishing 38:22	162:9 164:15
23:20 38:22	217:10 218:7	week 32:13	41:22	workload
40:5 45:16	we're 5:23 8:10	82:24 158:7,13	withdraw 7:11	145:23
68:6 69:10,11	13:6 15:2	158:15	163:7	works 166:1
69:13,22 70:4	20:25 29:9,12	weeks 7:15	withdrawal	208:21
70:6,9 73:15	30:10,11,21	78:25	139:24	world 104:18
75:12 96:5,11	33:13 43:23	welfare 189:20	withdrawals	Worldwide
113:3 114:24	51:18,23 54:14	191:19	22:21 91:24	219:23
160:15 161:3	55:22 58:15	wells 46:7 48:22	92:3 139:9,12	worth 157:15
171:2 186:25	65:13 68:7	49:1,8 52:15	146:10 147:6	212:2
206:13,22	69:6 71:18	53:13 55:11,12	147:12 150:23	wouldn't 70:13
212:16,17,23	73:11 74:23	56:25 57:20	175:3,14,24	154:12 180:2
way 18:24 29:15	75:14 80:14,20	65:12,14,16,17	withdrawing	189:24 192:5
1 ')(), 1() '//\.'')'	01.0 02.4 00	65.10.21.24	12.46	WD 06 50.11
29:19 40:22	81:2 83:4,22	65:19,21,24	13:4,6	WR-06 50:11

written 8:5	165:1,1,4,7	101:11 102:23	15 33:11 47:15	66:5 77:14
79:20 99:11	166:8,9,11	103:14 210:22	47:23 80:22	83:18 89:3,8
112:19	167:6,10,11,16	1,017 93:8,16	85:6 88:11,11	98:10 101:21
wrote 216:8	167:25 168:4	196:4	124:6	119:3 131:23
	189:5,5 195:22	1,100 198:17	16 31:11 86:19	170:19,21
X	196:1 198:3,7	1,200 35:25	88:12 115:8	210:15 211:15
X/Y 71:9 127:16	198:8,11,12,16	1,400 94:8	1600 2:14	211:25
XVIII 1:5	198:18 199:4	1,500 35:25 94:5	162 11:8	2,000 198:21,25
	199:17	1:15 83:7	162A 11:8 76:20	2,400 49:19
Y	year's 199:23	10 30:17 55:18	163 11:8 80:2	66:12,19
yeah 6:5 88:25	year-by-year	76:12 77:19	1680 13:22	2,650 65:13
109:3 178:15	150:19	79:11 85:6	169 19:4 171:24	2,824 72:8
179:2 190:22	year-to-date	158:12 164:1	16th 219:17	2.51 33:14
193:25 204:18	97:9	100 47:22	17 88:12 99:16	2.70 98:8
208:4 210:21	year-to-year	168:13	149:9,19	20 106:18 156:4
year 15:19 31:8	186:3	100.16 98:3	170 3:5	199:18
32:20 33:1,4	years 15:22,23	100.10 76.3	173 142:2	200 124:24
33:15,19 35:21	16:16 54:24	101 92:7,12,14	18 51:22,24	125:4
35:25 36:25	58:9,12 74:19	93:2,13 110:10	88:23 100:23	2000 179:21,21
49:16,19 54:23	81:1 101:15	111:20 112:2	180 63:2	180:7
60:6,7,7 65:18	136:18 139:22	112:14 138:6	1890 46:6	2004 19:15
65:18 67:12	139:23 144:25	152:13 153:2	18th 2:23 130:9	55:24 58:19
68:9 81:5	145:3 148:11	153:18,25	211:9	2005 55:25
83:18,20 87:5	165:2 167:8	154:25 155:5	19 211:10	60:17
87:6 91:17,19	168:15,17	194:7,8,16	1903 174:21	2006 57:2,25
95:8,10,19	198:14,20,22	103 122:10	1907 37:20	58:1,7 61:17
96:4,8,24,25	198:25	127:21	1950 174:9	2007 15:21 56:1
97:4 101:25	yesterday 82:9	105,142 147:19	1975 46:8	62:9
102:6 106:4,6	92:4 104:23	10th 83:23	1980 37:24 38:8	2009 16:7
106:15,25	you-all's 125:5	11 56:19 158:23	39:10,14 40:12	2011 195:23
107:6,10,12		11:02 1:12	40:20 41:12	2012 16:7,10,16
108:7,10,13,15	Z	1120 2:14	43:21 47:2	117:3 121:24
109:8,10	zero 108:6	113 2:9	174:9 175:11	134:10,17
115:16,17	Zoom 1:12	11th 38:8	177:11,13,17	135:11 150:23
135:4 136:8		12 62:24,24 74:6	178:13,25	151:1,1 156:15
137:23 138:11	0	89:3 158:12,23	179:19,21	156:17,19,24
138:22 139:11	0.28 33:18	1209 5:20	180:8 195:8,12	158:21 159:2
139:16 140:23	0.54 123:24	1215 5:7,16,24	1982 37:25	2013 121:19
140:23 141:7	004 11:19	7:20 9:19	38:11 41:13	135:12,13
141:18,19	04-30-22 219:20	126 38:5	43:22 195:8	136:2
143:17 146:4	0608 132:8	13 3:4 156:25	1985 46:2	2014 145:22
146:25 147:3	0876 133:11	1300 2:18	1st 57:2,25	146:14 157:1,3
147:13 148:19	134:5,7	14 70:7 157:1	·	162:11
149:20 150:7	1	14,000 161:9	2	2015 162:11
150:16 151:1		14.14 124:11	2 14:9 20:25	2016 115:8
156:23 163:10	1 63:13,15 66:4	141 1:1 4:3	57:10 60:22	138:24 140:12
163:13,17,23	66:20 77:6	144 3:5	61:3 63:25	145:22 149:20
	<u> </u>	<u> </u>	<u> </u>	

2017 103:8	268 169:17	41:8 43:11	5	24:15 26:8
107:6,15	26th 121:19	48:12 51:10	5 19:1 21:9 41:9	102:13 136:24
200:17 202:7	2701 2:9	54:23 60:9	65:1 89:24	171:23,25
2018 141:25	279-7868 2:10	64:14 88:23	102:13 136:24	172:3
142:7,10,13	28th 62:9	89:23 90:6	171:1	6,662 33:14
200:20,23	29 12:19	92:16 93:5	5.5 92:13,17	60 28:24 158:3
201:11,23		95:6 102:13	95:4,9,23	608 131:10
202:8	3	112:24 113:6	98:21 137:9	132:11
2019 115:11	3 15:5 20:13,25	131:4,19	194:19,22	612 12:8
130:9,13	22:2 24:9	136:22 144:25	195:11,21	626 130:3,18,23
141:10	39:19 41:8	153:18 155:14	196:4 197:2	63 25:14,19
2020 31:13 33:4	64:9,10 78:4	206:4	5:00 208:17	669 12:9 16:21
33:10,13 108:2	88:11 90:6	4-and-a-half	215:24	67 142:4
108:3,8 115:12	102:7 123:4	91:12	5:02 218:9	670 12:9
139:4 147:4	136:21 171:24	4,200 17:16	50,000 196:17	674 12:10
155:18	203:6	4.5 92:23 93:22	197:10	677 87:17 88:3
2021 1:12 145:7	3,000 65:16,17	94:7,10 95:9	500 2:5 179:18	68 142:15
199:21,22,24	164:11 168:24	95:23 98:23	508-6281 2:19	69 94:2,11
217:19 219:17	3.024 150:11	137:9 162:4	51 126:16	6C 203:6,7
2083 12:17	3.17 46:17,24	194:11,17,18	53 12:19	6U 56:11
2084 99:20	47:2	4:00 208:16	53,000 155:15	
100:5,9	3:20 156:4	213:17	185:16 197:19	7
213 3:6	30 64:10 78:10	40 158:7,14	53.8 142:10	7 30:1 102:13
216 3:6	78:12,18 79:17	40,164 33:11	538 11:16	123:19 137:2
218,231 33:4	84:3 101:25	400 190:18,20	54 12:19	71,000 142:9
147:5	30-day 64:18	190:21	5406 45:25	710 13:3,6,7
219 3:9	101:16	428 11:9 135:15	542 11:18,24,25	715 108:9
22 113:22	30(b)(6) 5:5 6:8	429 11:10 19:12	12:1,8	72-3-2 14:15
2223 119:3	7:5 9:3	135:15 149:19	55 12:20	720 2:10,19
120:8,10	300 35:23	149:20	56 12:20 108:8	119:1
223 119:2	3000 219:24	43 126:3	57 12:20 16:23	7212.1 49:10
219:23	303 2:15,24	430 93:19	58 12:21 96:10	738 33:17
229 117:15	30th 113:1	431 11:10 19:11	114:19	743 85:8,24 86:4
118:20,24	31st 195:23	19:13 170:9,13	580 93:23,24	75 97:20,25
23 128:14	32(a)(3) 7:4	203:6,6	196:10,23	186:5
235 219:24	35 124:21	432 11:12 60:12	59 12:21 26:8	75,000 185:25
2376 12:18	350 65:15	433 11:13 62:3,3	38:2 55:18	752 81:11,24
24 52:9 53:4	370 2:23	446-7979 2:6	62:24 70:7,7	82:1,6 83:16
122:9	39 125:8	465 11:13 57:8	80:22 86:19	757 12:11
25 35:18 53:9	3rd 19:15	467 11:6 39:7	99:16 100:23	135:14 136:2
139:2 146:9	4	468 11:6 41:2	106:18 113:22	136:11
164:1	4 6:6 11:17,25	57:7	127:3 128:14	758 210:15
25th 217:17,19	12:4,5 16:18	474 11:7	139:1 145:11	211:18,25
26 122:13 123:2	20:13 21:20,21	485 103:3,24	146:9	213:10,13
127:18,22	24:9 25:4,7,9	200:13		762 12:11
131:1 145:11	26:3,10 40:2	486 11:15 111:3	6	77027 219:24
263 11:9,9	20.3,10 40.2	184:25	6 21:10 22:2,6	785 12:11
	1	<u> </u>	<u> </u>	<u> </u>

			Page 253
135:15	90 35:16 58:15		
786 12:11	126:10		
108:18 201:2	90,640 139:17		
788 120:25			
	150:3,13		
121:14,16 789 12:12 68:12	900 198:18 91 142:1		
793 12:12	916 2:6		
135:15	927 12:16		
7th 2:18	135:15		
8	929 12:16 31:11		
8 38:3 137:6	135:15 149:9		
80 31:21 42:24	939 12:16 74:1		
44:5 67:4,4	95 168:3,14,16		
158:15 165:13	168:18		
800-745-1101	95814 2:5		
219:25	999 2:23		
80202 2:23			
80203 2:14,19			
80205 2:14,17			
807 12:13			
135:15			
82 33:6 42:24			
44:5 195:12			
826 12:24			
8262 219:20			
829 12:24			
830 12:22			
838 12:22			
843 12:14			
844-1375 2:24			
85 31:22			
85,000 185:25 186:5			
861-1963 2:15			
868 44:16 45:2			
875 202:10 879 12:15			
879A 12:15 881 50:1 181:16			
181:20			
883 105:3,15,22			
886 45:4			
9			
9 1:12 38:9			
137:10			
137.10			
1			